



SOUTHERN UTAH UNIVERSITY
ELECTRONIC LEARNING
CENTER
CEDAR CITY, UTAH

DFCM PROJECT #06128730

CONSTRUCTION DOCUMENTS

OCTOBER 27, 2006

PREPARED BY



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CODE ANALYSIS

APPLICABLE CODES			
	Year		Year
International Building Code	2003	National Electrical Code	2002
International Mechanical Code	2003	Uniform Code for Building Conservation	N.A.
International Plumbing Code	2003	ADA Accessibility Guidelines	2002
International Fire Code	2003		
International Energy Conservation Code	2003		

A. Occupancy and Group: B OFFICE

Change in Use: Yes No X Mixed Occupancy: Yes No X
Special Use and Occupancy (e.g. High Rise, Covered Mall): N.A.

B. Seismic Design Category: N.A. Design Wind Speed: N.A. mph

C. Type of Construction (circle one):
I II III IV V
A B A B HT A B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):
North: 0 South: 0 East: 0 West: 0

E. Mixed Occupancies: NO Nonseparated Uses: NO

F. Sprinklers:
Required: NO Provided: YES Type of Sprinkler System: EXISTING

G. Number of Stories: 1 Building Height: EXISTING

H. Actual Area per Floor (square feet): 843 SF

I. Tabular Area: 9000 SF

J. Area Modifications:
$$a) A_a = A_1 + \left[\frac{A_1 I_1}{100} \right] + \left[\frac{A_1 I_2}{100} \right] \quad I_1 = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$$
$$27000 \text{ SF} = 9000 + \left[\frac{9000 (0)}{100} \right] + \left[\frac{9000 (200)}{100} \right]$$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1 \quad \frac{843.5 \text{ SF}}{27,000 \text{ SF}} = .031$$

c) Total Allowable Area for:

- 1) One Story: 27,000
2) Two Story: $A_a(2)$ 27,000
3) Three Story: $A_a(3)$ N.A.

d) Unlimited Area Building: Yes No X Code Section:

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0	N.A.	Floors - Ceiling Floors	0	N.A.
Interior Bearing Walls	0	N.A.	Roofs - Ceiling Roofs	0	N.A.
Exterior Non-Bearing Walls	0	N.A.	Exterior Doors and Windows	0	N.A.
Structural Frame	0	N.A.	Shaft Enclosures	0	N.A.
Partitions - Permanent	0	N.A.	Fire Walls	0	N.A.
Fire Barriers	0	N.A.	Fire Partitions	0	N.A.
			Smoke Partitions	0	N.A.

L. Design Occupant Load: 25
Exit Width Required: 3.75' Exit Width Provided: 3'-0"

M. Minimum Number of Required Plumbing Facilities:

- a) Water Closets - Required (m) 1 (f) 1 Provided (m) 1 (f) 1
b) Lavatories - Required (m) 1 (f) 1 Provided (m) 1 (f) 1
c) Bath Tubs or Showers:
d) Drinking Fountains: 1 Service Sinks: 1

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UNIVERSITY BUILDING # 70
STATE BUILDING # 204
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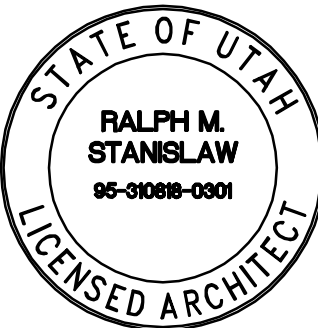
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ISSUE

MARK DATE DESCRIPTION

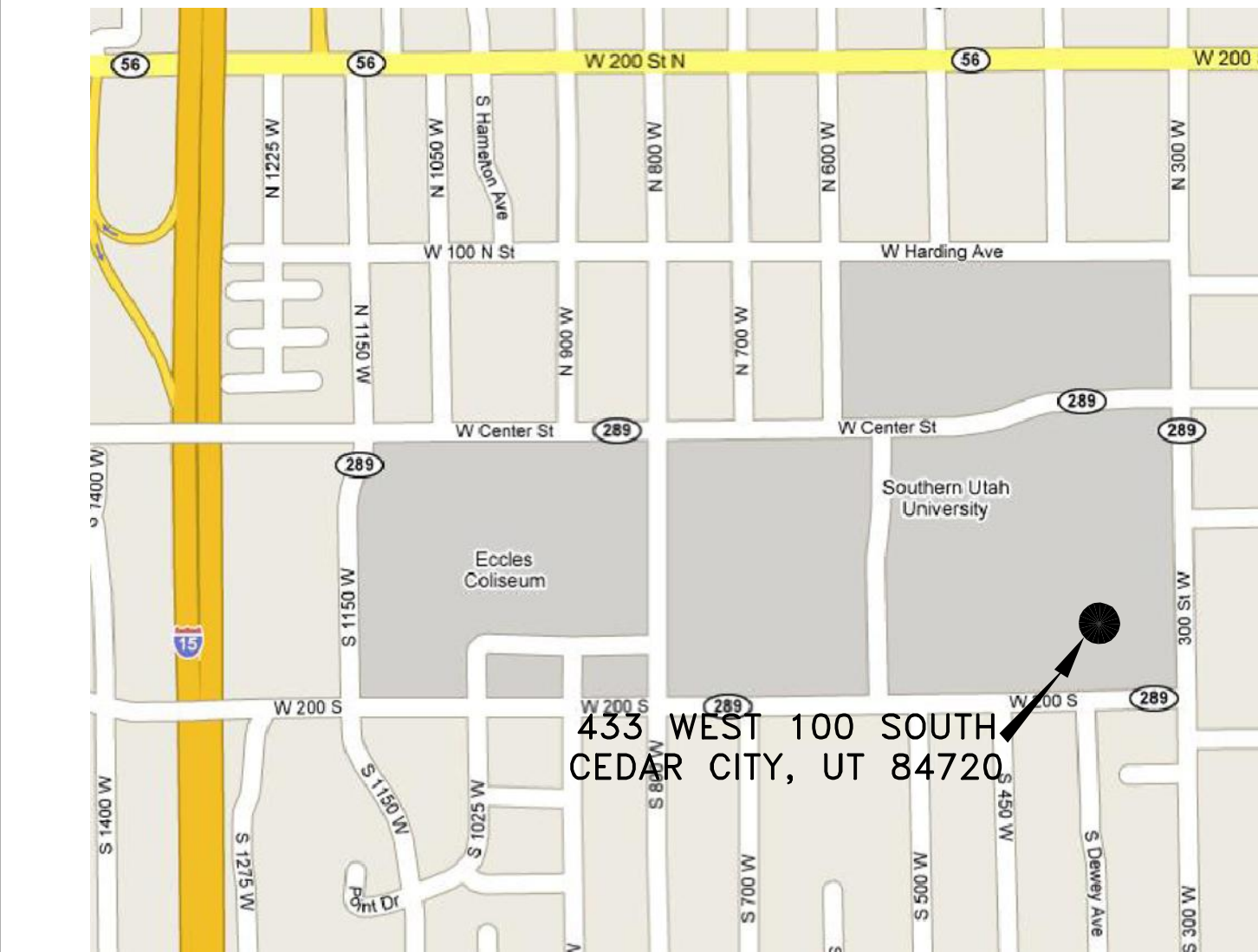
DFCM CONTRACT NO: 077005
DFCM PROJECT NO: 06128730
ARCHIPLEX PROJECT NO: 0618.01
DRAWN BY: E. RUSTEN
CHECKED BY: R. STANISLAW
SCALE: NONE
DATE: OCTOBER 27, 2006

KEY PLAN

SHEET TITLE

COVER SHEET

G000



GENERAL NOTES

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GENERAL NOTES (CONT.)

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ABBREVIATIONS

- A.D. - ACCESS DOOR
- A.P. ACCESS PANEL
- ADJ - ADJUSTABLE
- ADO - AUTOMATIC DOOR OPERATOR
- AF - ACCESS FLOORING
- ALT - ALTERNATE
- ALUM - ALUMINUM
- AP - ACCESS PANEL
- AT - ACOUSTICAL CEILING TILE
- AT (CL) - CLEANROOM ACOUSTICAL CEILING TILE
- AWF - ACOUSTICAL WALL FABRIC (TACKABLE)
- AWP - ACOUSTICAL WALL PANEL
- BO - BOTTOM OF
- BP - BRICK PAVERS (UNIT PAVERS)
- BD - BOARD
- BIT - BITUMEN
- BLD - BUILDING
- BLK - BLOCK
- BLKG - BLOCKING
- BR - BRICK (UNIT MASONRY)
- BM - BEAM
- C - CONCRETE
- CAB - CABINET
- CC - COLOR CODE
- CEF - CONDUCTIVE ELASTOMERIC (LIQUID) FLOORING
- CMU - CONCRETE MASONRY UNITS (UNIT MASONRY)
- CP - CARPET (WITHOUT CUSHION BROADLOOM)
- CPT - CARPET TILE
- CT - CERAMIC TILE (FLOOR BASE AND WALL)
- CJ - CONTROL JOINT
- CLG - CEILING
- CNTR - COUNTER
- COMP - COMPACTED
- COMP - COMPRESSIBLE
- COM - COMPOSITION
- COND - CONDITION
- CONFG - CONFIGURE
- CONT - CONTINUOUS
- D.B. - DOUBLE BUNK
- DES - DESIGNATION
- DIA - DIAMETER
- DIM - DIMENSION
- DISP - DISPENSER
- D.O. - DOOR OPENING
- DTL - DETAIL
- DWGS - DRAWINGS
- EA - EACH
- E.F. - EXHAUST FAN
- EL - ELEVATION
- ELEC - ELECTRICAL
- EFTR - EXISTING FINISH TO REMAIN
- EPY - EPOXY (COATINGS)
- EQUIP - EQUIPMENT
- EX - EXISTING
- EXP - EXPOSED
- FD - FLOOR DRAIN
- FIN - FINISH
- FLR - FLOOR
- FLSHG - FLASHING
- FRM - FRAME
- FRMG - FRAMING
- GA - GAGE
- GALV - GALVANIZED
- GEN - GENERAL
- GL - GLASS
- GWB - GYPSUM WALL BOARD SYSTEMS
- GYP - GYPSUM
- H.C. - H/C - HANDICAP
- HM - HOLLOW METAL
- HORZ - HORIZONTAL
- HP - HORSEPOWER
- HR - HOUR
- HW - HARDWARE SET (FINISH OR BUILDERS HARDWARE)
- INSUL - INSULATION
- JT - JOINT
- LAM - LAMINATE
- LM - LATEX MASTIC FLOORING
- LT - LIGHT
- LIG - LIGHTING
- MANF - MANUFACTURER
- MAT - MATERIAL
- MC - MULTICOLOR COATING
- MECH - MECHANICAL
- MIN - MINIMUM
- M.O. - MASONRY OPENING
- MOD - MODIFIED
- MTL - METAL
- NAT - NATURAL
- NF - NATURAL FINISH
- NIC - NOT IN CONTRACT
- NO - NUMBER
- NOM - NOMINAL
- OC - ON CENTER
- O.D. - OVERFLOW DRAIN
- OPNG - OPENING
- OPP - OPPOSITE
- P - PAINT (EXTERIOR, INTERIOR, TRANSPARENT FINISHES)
- PC - PRECAST (ARCHITECTURAL PRECAST CONCRETE PANELS)
- PCP - PORTLAND CEMENT PLASTER
- PFW - POLYPROPYLENE FABRIC WALL COVERING
- PL - PLASTER
- P LAM - PLASTIC LAMINATE
- PLYWD - PLYWOOD
- PNL - PANEL
- PREP - PREPARATION
- PUT - POLYURETHANE
- QT - QUARRY TILE
- RAF - RESILIENT ATHLETIC FLOORING
- RB - RESILIENT BASE (RUBBER OR VINYL)
- RE - REFER TO
- REFL - REFLECTED
- REINF - REINFORCEMENT
- REQ'D - REQUIRED
- R.D. - ROOF DRAIN
- RF - RAISED RUBBER FLOORING
- RTD - RATED
- S.B. - SINGLE BUNK
- SC - HIGH BUILD GLAZED COATING (SPECIAL COATING)
- SEC - SECURITY
- SP - SPECIAL FACED
- SPEC - SPECIAL (ARCHITECT'S CHOICE)
- SPEC - SPECIFICATIONS
- ST - STONE (CAST)
- S STL - STAINLESS STEEL
- SCHED - SCHEDULE
- SHT - SHEET
- SIM - SIMILAR
- SS - STAINLESS STEEL
- STL - STEEL
- STRUC - STRUCTURE
- TO - TOP OF
- THK - THICKNESS
- TRTD - TREATED
- TT - TERRAZZO TILE (PLASTIC MATRIX)
- TYP - TYPICAL
- UL - UNDERWRITERS LABORATORY
- U.N.O. - UNLESS NOTED OTHERWISE
- VCT - RESILIENT TILE FLOORING (VINYL COMPOSITION TILE)
- VERT - VERTICAL
- VIF - VERIFY IN FIELD
- VP - VENEER PLASTER
- W - WALL COVERING (VINYL COATED FABRIC)
- WB - WALL BORDER
- WD - WOOD
- WIND - WINDOW
- WSF - WELDED SEAM SHEET FLOORING
- WT - WEIGHT

ARCHITECTURAL LEGEND

XX | DETAIL NAME

XX-XXX | REF. REFERENCE DWG | SCALE: DRAWING SCALE

- REVISION INDICATION
- REFERENCE ELEVATION OR WORKING POINT
- FIRE EXTINGUISHER 8 VALVE CABINET
- FIRE EXTINGUISHER 8 VALVE CABINET (DETENTION TYPE)
- FIRE EXTINGUISHER
- EXIT SIGN WITH OR WITHOUT DIRECTIONAL ARROW
- FIRE HOSE VALVE CABINET
- DOOR REFERENCE
- WINDOW REFERENCE

INDEX OF DRAWINGS

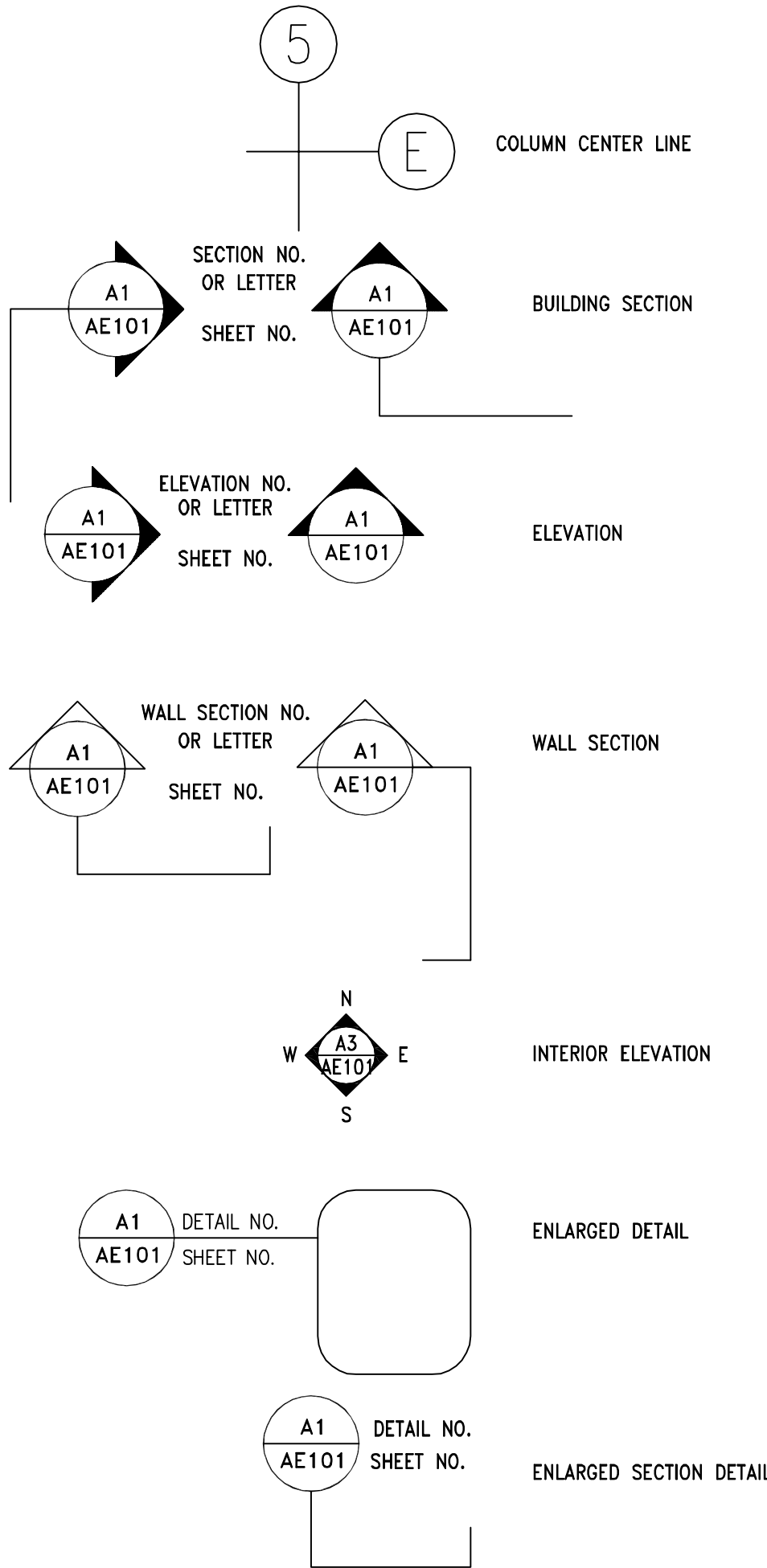
GENERAL	
G000	COVER SHEET
G001	DRAWING INDEX, ABBREVIATIONS, LEGEND, AND GENERAL NOTES

ARCHITECTURAL	
AD101	DEMOLITION PLAN
AE101	FLOOR PLAN
AE102	ALTERNATE FLOOR PLAN & RCP
AE103	ALTERNATE DETAILS
AE104	ALTERNATE RCP
AE124	REFLECTED CEILING PLAN AND DETAILS
AE401	COMPUTER LAB INTERIOR ELEVATIONS AND DETAILS
AE601	DOOR AND FINISH SCHEDULES AND DETAILS

MECHANICAL	
M001	MECHANICAL GENERAL NOTES AND LEGEND
ME101	MECHANICAL FLOOR PLAN NEW AND DEMOLITION
ME601	MECHANICAL SCHEDULE AND DETAILS

ELECTRICAL	
E001	SYMBOLS, NOTES, AND SCHEDULES
E002	ELECTRICAL SPECIFICATIONS
E101	DEMOLITION PLAN
E201	LIGHTING PLAN
E301	POWER PLAN
E401	ELECTRICAL DIAGRAMS

ARCHITECTURAL LEGEND CONT'D



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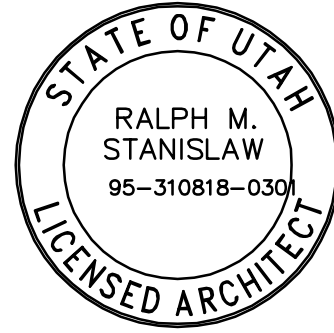
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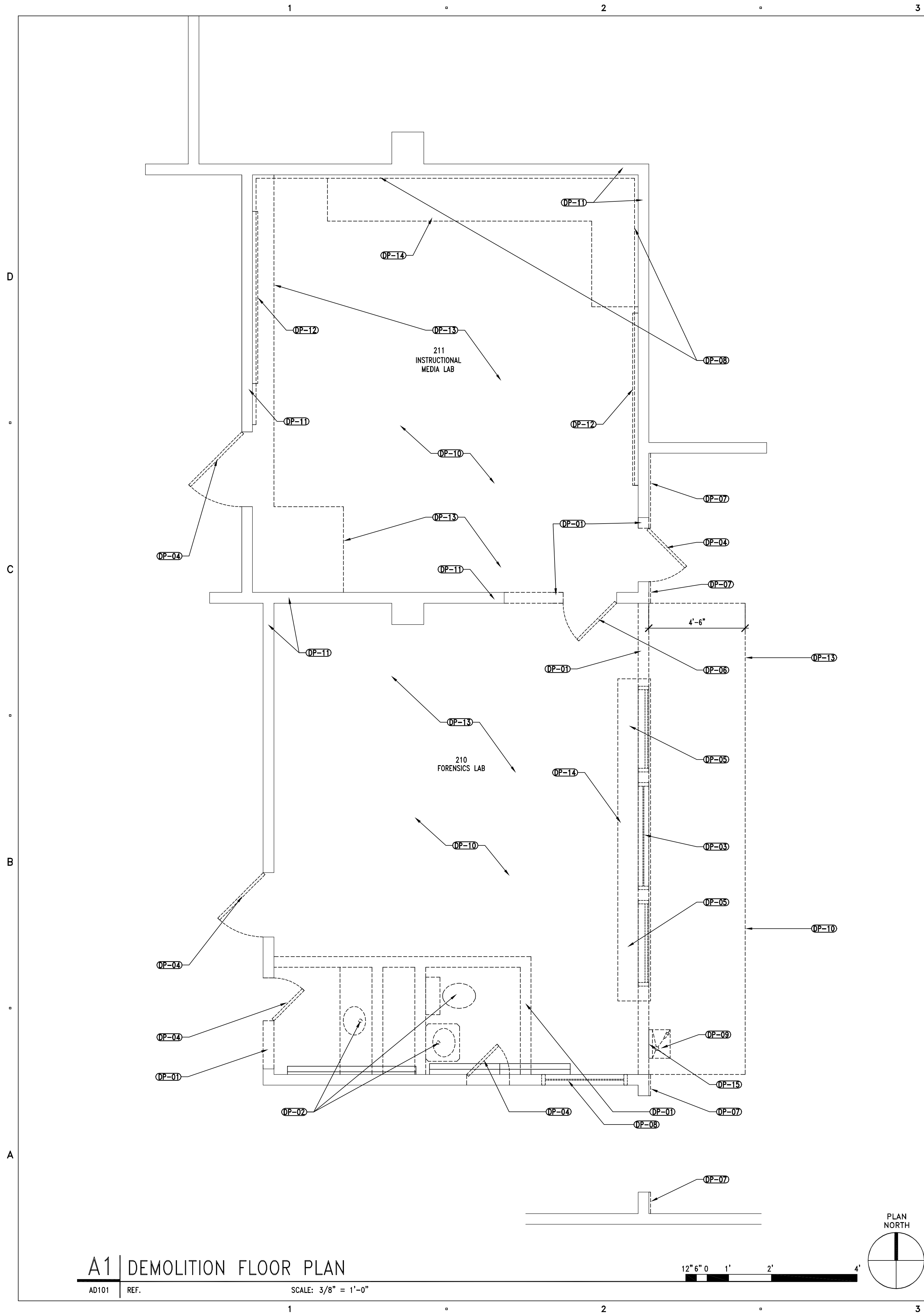
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CHECKED BY:	R. STANISLAV
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KEY PLAN	

SHEET TITLE

DRAWING
INDEX

G001



GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
2. DO NOT SCALE DRAWINGS.
3. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
4. DASHED LINES REPRESENT WALLS AND DOORS TO BE REMOVED.
5. CONTRACTOR SHALL PROTECT ALL EXISTING FINISHES FROM DAMAGE DURING DEMOLITION AND REPAIR OR REPLACE ANY MATERIAL THAT IS DAMAGED.
6. COVER RETURN AIR OPENINGS BEFORE AND DURING CONSTRUCTION.

DEMOLITION PLAN KEYNOTES

QP-01	DASHED WALLS TO BE REMOVED TYP.
QP-02	REMOVE ALL PLUMBING FIXTURES AND CAP SERVICES
QP-03	WINDOW TO BE REMOVED
QP-04	REMOVE EXISTING DOOR, FRAME, AND HARDWARE
QP-05	OVERHEAD DOOR AND HOOD TO BE REMOVED
QP-06	DUTCH DOOR W/ 1/2 LEAF TO BE REMOVED
QP-07	DASHED LINE INDICATES EXTENT OF WALL PANELING AND CARPET BASE TO BE REMOVED ALONG THIS WALL.
QP-08	REMOVE EXISTING WIRE MOLDING AND CAP SERVICE
QP-09	EXISTING DRINKING FOUNTAIN TO BE RELOCATED - CAP LINE UNTIL RELOCATED
QP-10	REMOVE AND DISCARD EXISTING CARPET, PREP FLOOR AS REQUIRED TO RECEIVE NEW FINISH.
QP-11	PREPARE EXISTING WALLS TO RECEIVE NEW FINISH
QP-12	REMOVE EXISTING CORK BOARD - CONSULT OWNER FOR STORAGE LOCATION
QP-13	REMOVE AND DISCARD EXISTING CEILING AND LIGHT FIXTURES ABOVE INCLUDING CEILING RECESS AND DARK ROOM POCKET.
QP-14	REMOVE AND DISCARD EXISTING COUNTER TOP
QP-15	REMOVE STROBE AND HORN FOR RELOCATION

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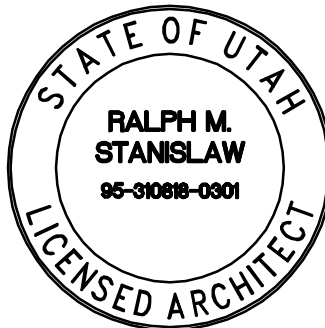
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SCALE:	3/8"=1'-0"
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KEY PLAN

SHEET TITLE

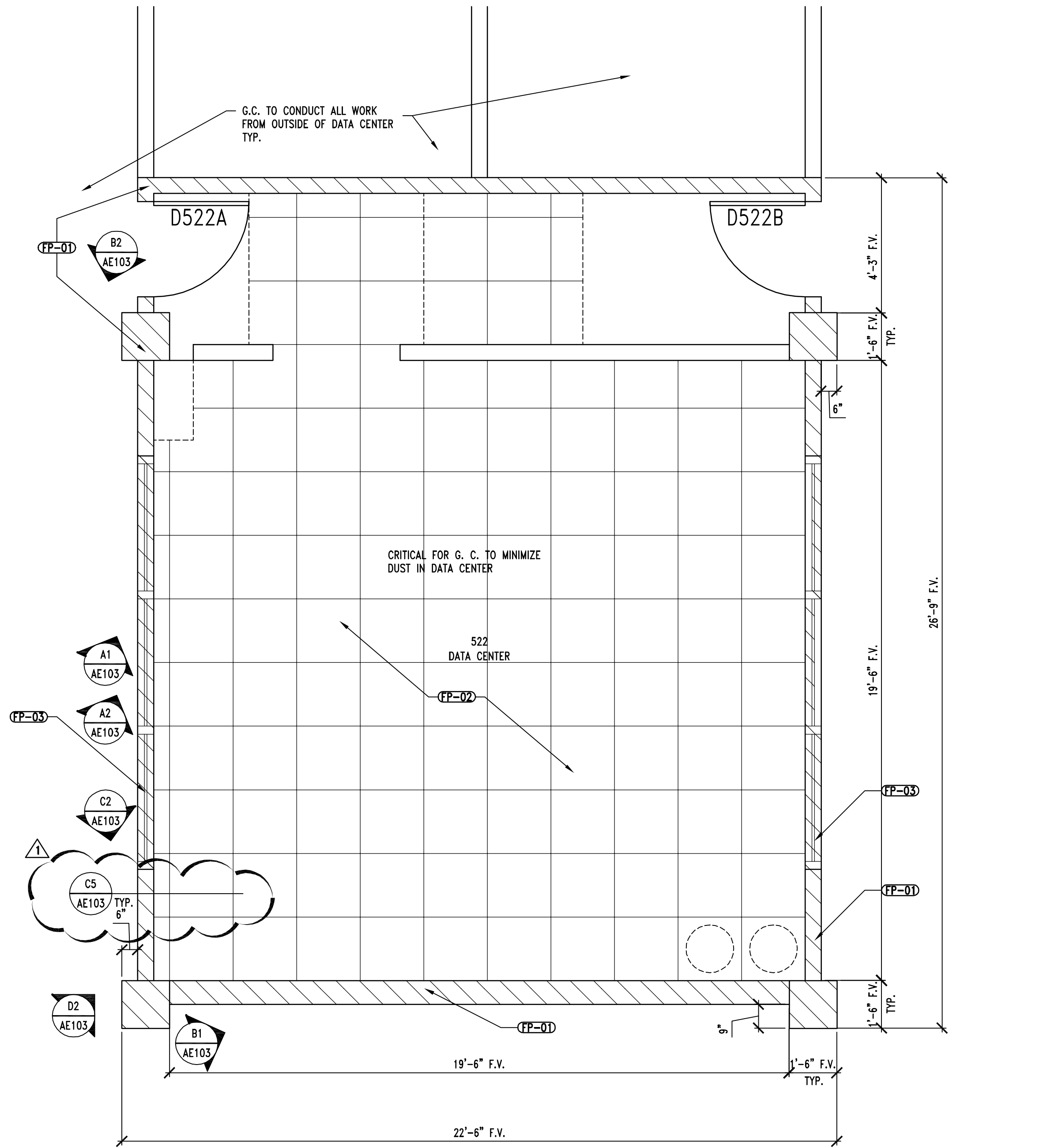
DEMOLITION
PLAN

AD101

D
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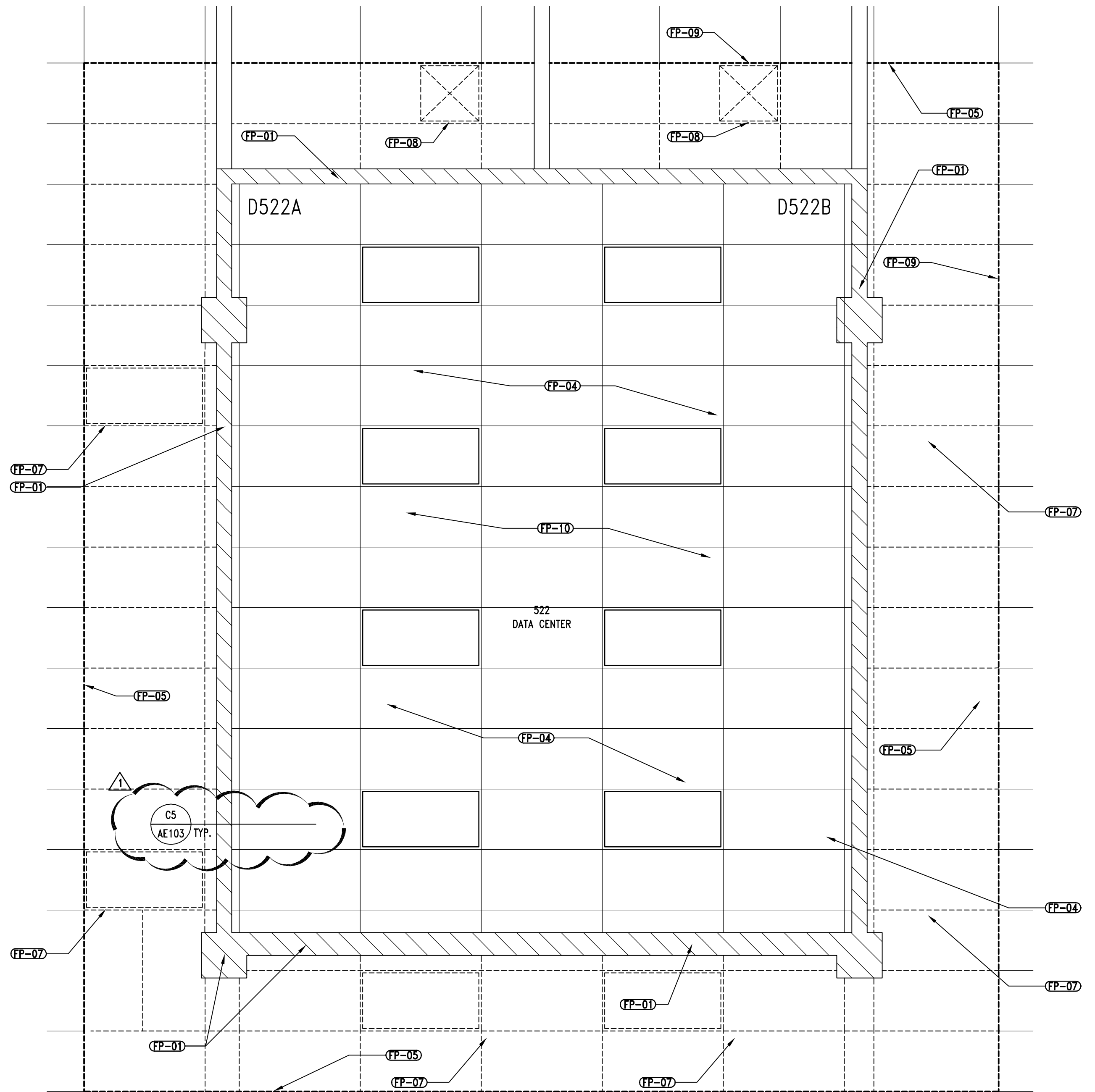
A1 | 5TH FLOOR MACHINE ROOM FLOOR PLAN

AE102 REF. SCALE: 3/8" = 1'-0"



A1 | 5TH FLOOR MACHINE ROOM REFLECTED CEILING PLAN

AE102 REF. SCALE: 3/8" = 1'-0"



GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
2. DO NOT SCALE DRAWINGS.
3. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
4. ALL DIMENSIONS ARE TO FACE OF WALL, UNLESS NOTED OTHERWISE.
5. MECHANICAL CONTRACTOR TO PROVIDE POSITIVE AIR PRESSURE IN DATA CENTER DURING CONSTRUCTION TO PREVENT MIGRATION OF DUST AND OTHER AIRBORN PARTICLES.

FLOOR PLAN KEYNOTES

(FP-01)	HATCHED AREA INDICATES- WALLS TO BE EXTENDED TO DECK ABOVE
(FP-02)	EXISTING RAISED FLOOR TO REMAIN
(FP-03)	EXISTING WINDOWS TO REMAIN
(FP-04)	EXISTING CEILING- FIELD VERIFY CONDITION
(FP-05)	REMOVE, CUT AND REPLACE CEILING GRIDS, SPLINES, AND TILE FROM EXTERIOR SIDE OF DATA CENTER. REPAIR AS NEEDED. TYP. EXISTING MAIN RUNNERS TO REMAIN F.V.
(FP-06)	EXISTING LIGHTS- F.V. LOC.
(FP-07)	EXISTING LIGHTING FIXTURES TO BE REMOVED TEMPORARILY AND PUT BACK WHEN FINISHED.
(FP-08)	EXISTING DIFFUSERS TO BE REMOVED TEMPORARILY AND PUT BACK WHEN FINISHED
(FP-09)	PERIMETER APPROXIMATE EXTENT OF WORK F.V.
(FP-10)	WORK FROM INSIDE THE DATA CENTER IS LIMITED. VACUUM TOP OF CEILING TILE BEFORE TAMPERING WITH IT.

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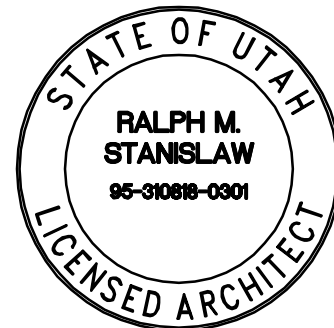
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△	11/9/06	DFCM PLAN REVIEW

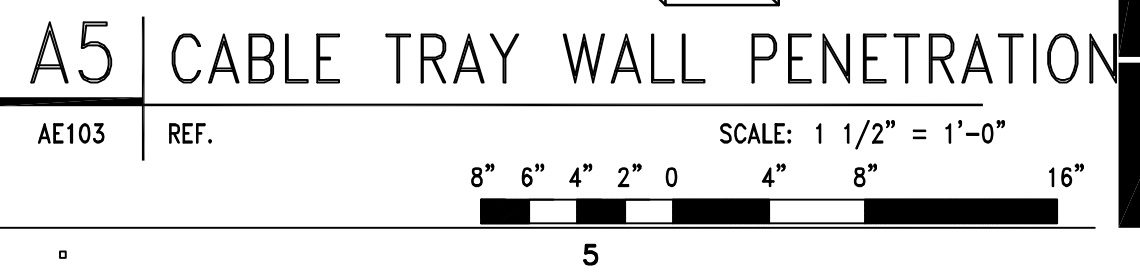
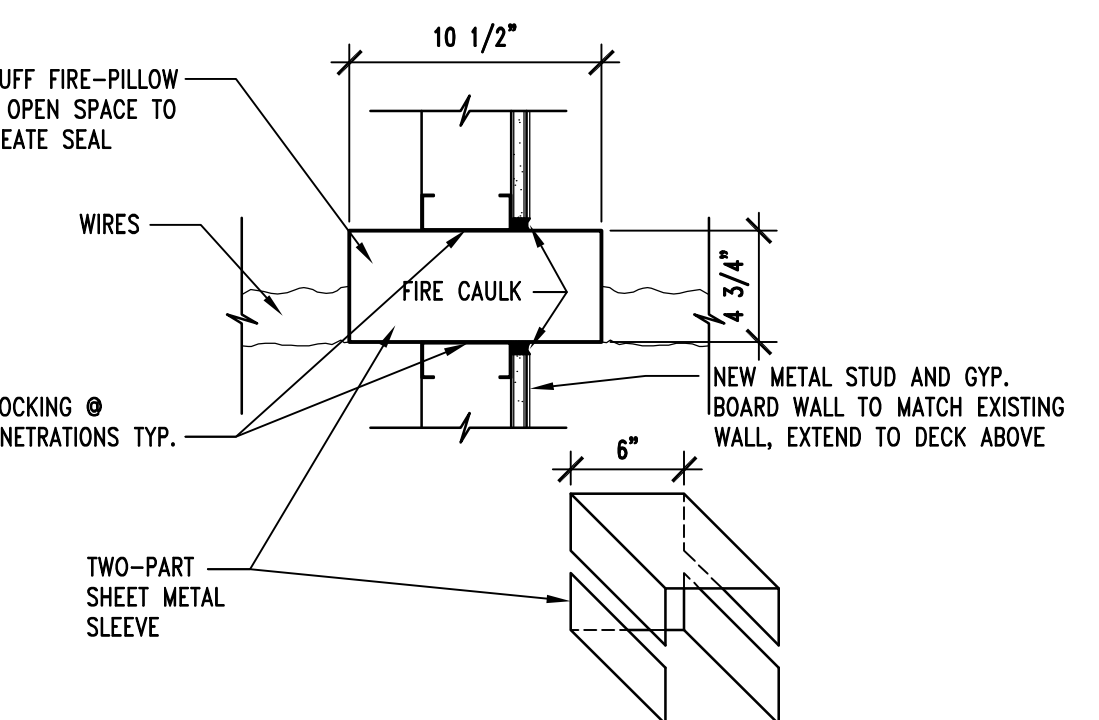
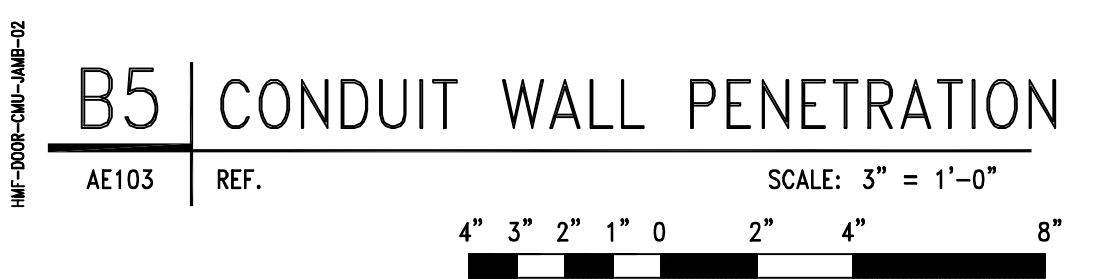
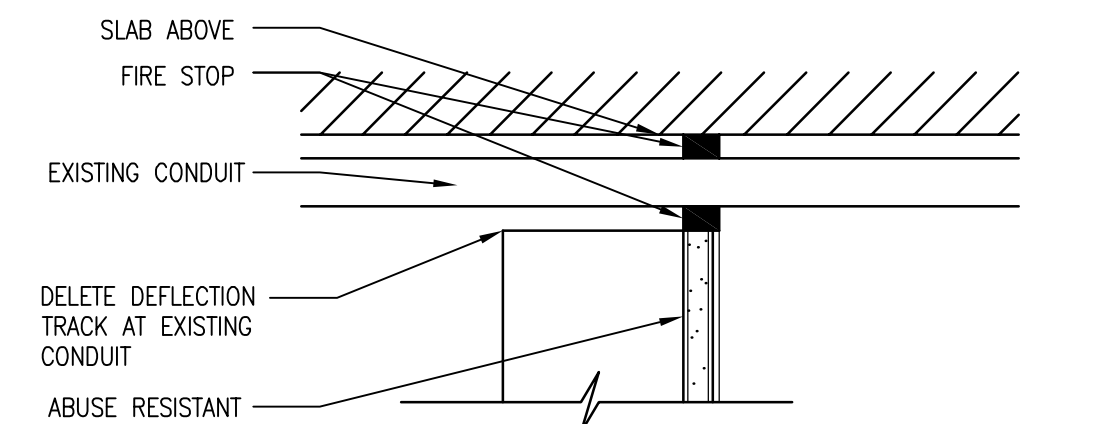
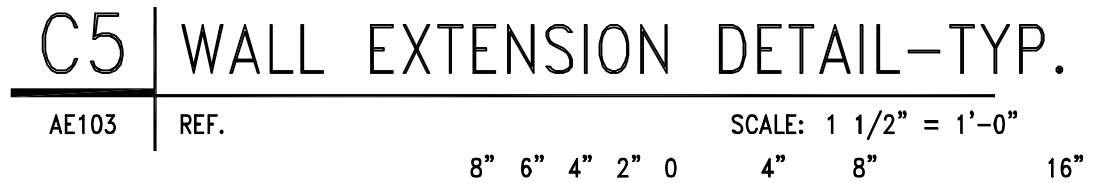
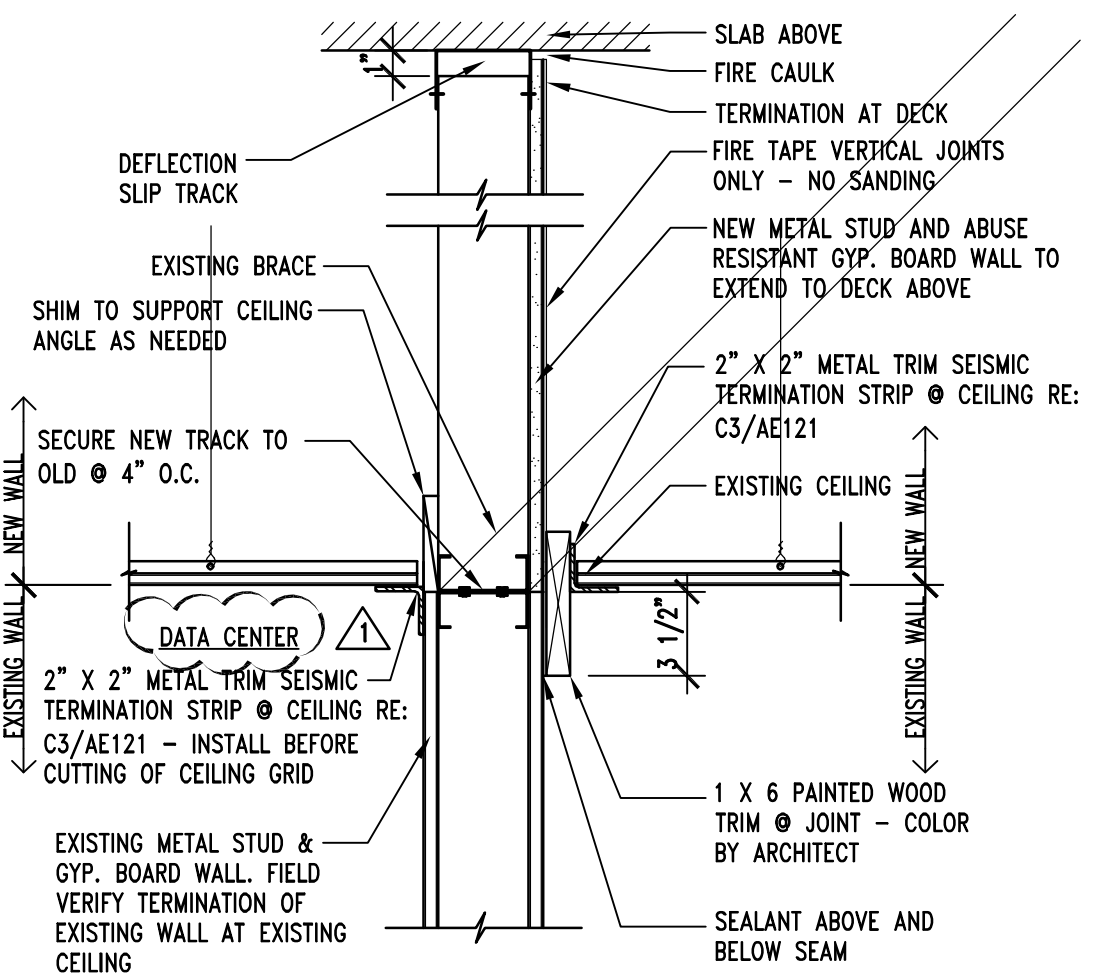
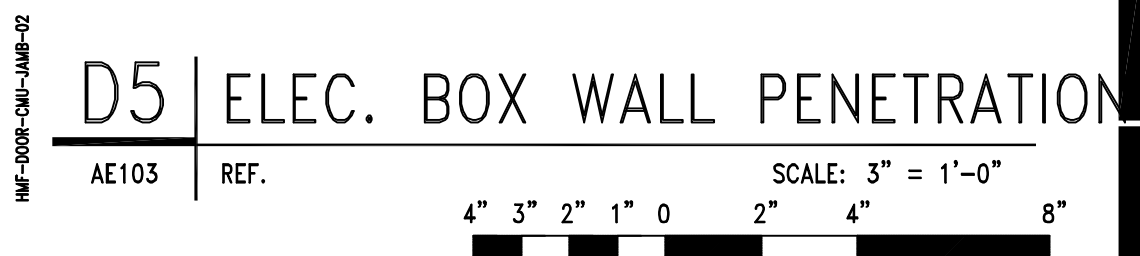
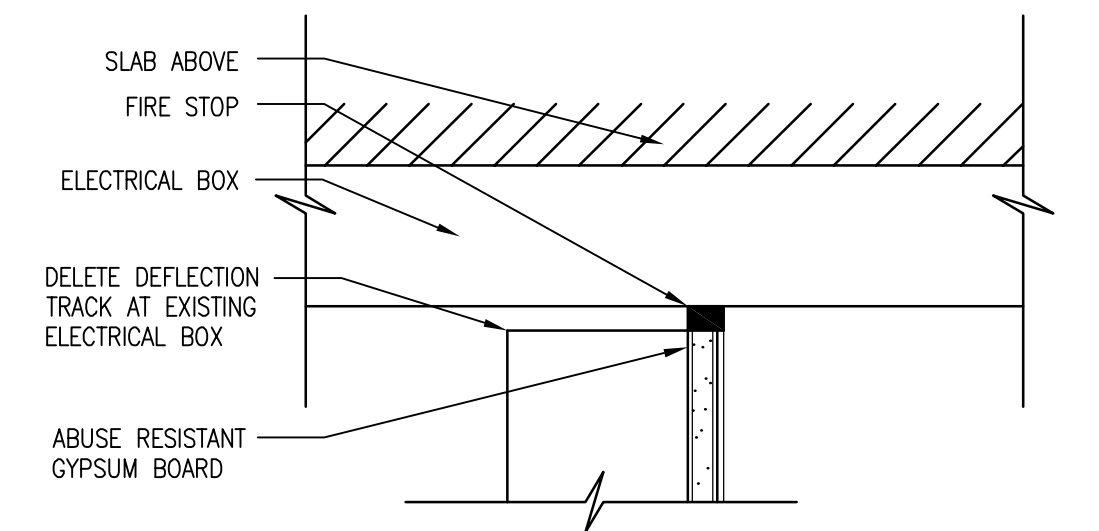
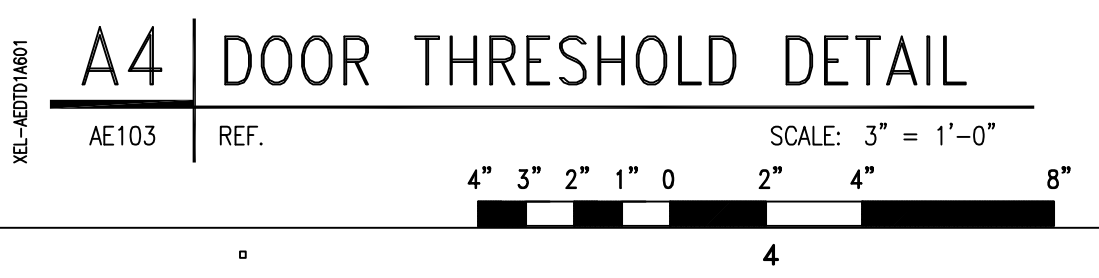
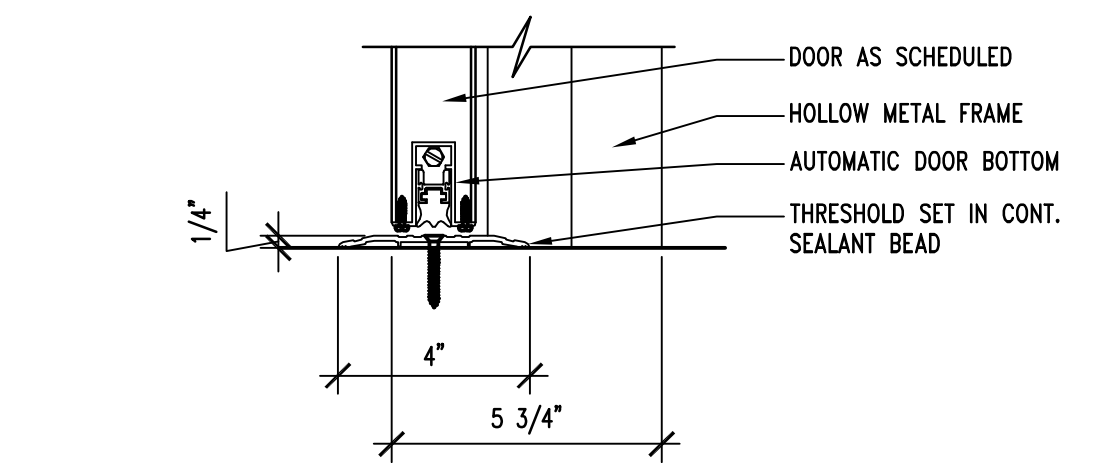
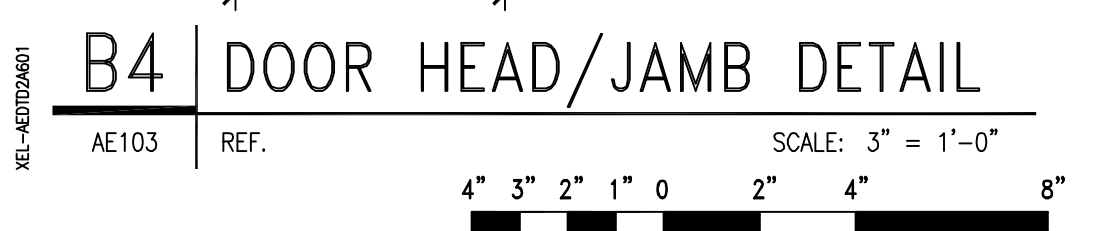
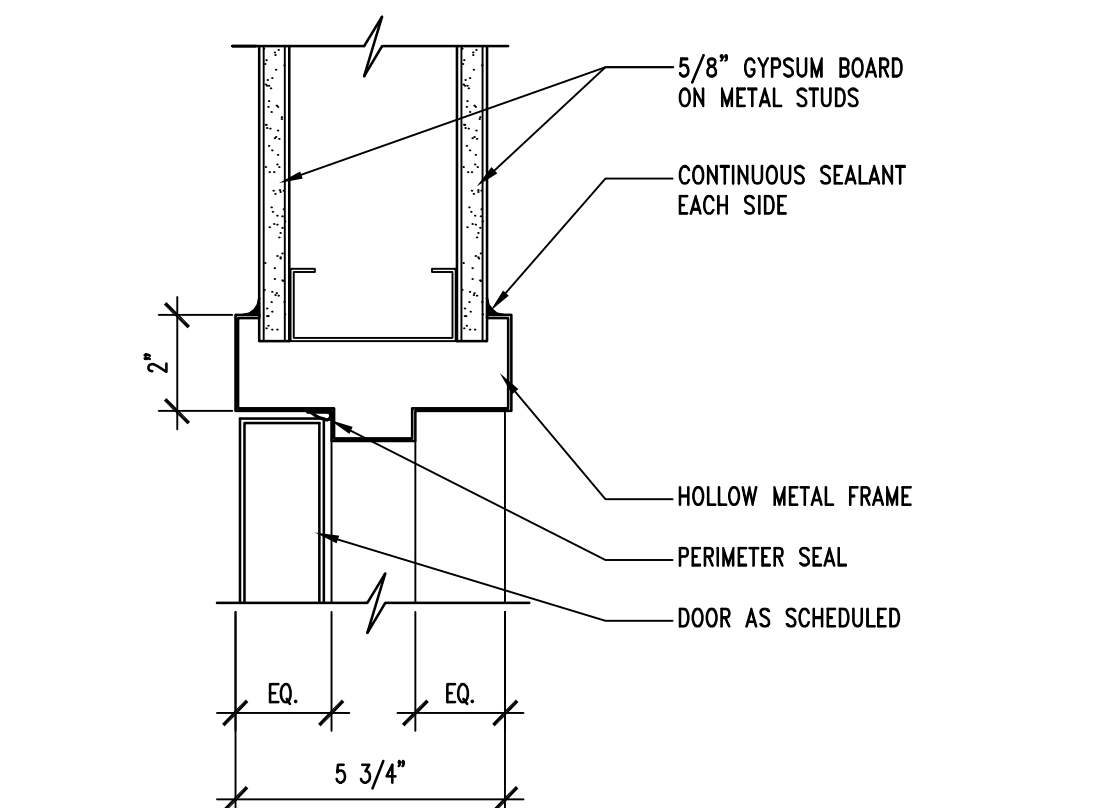
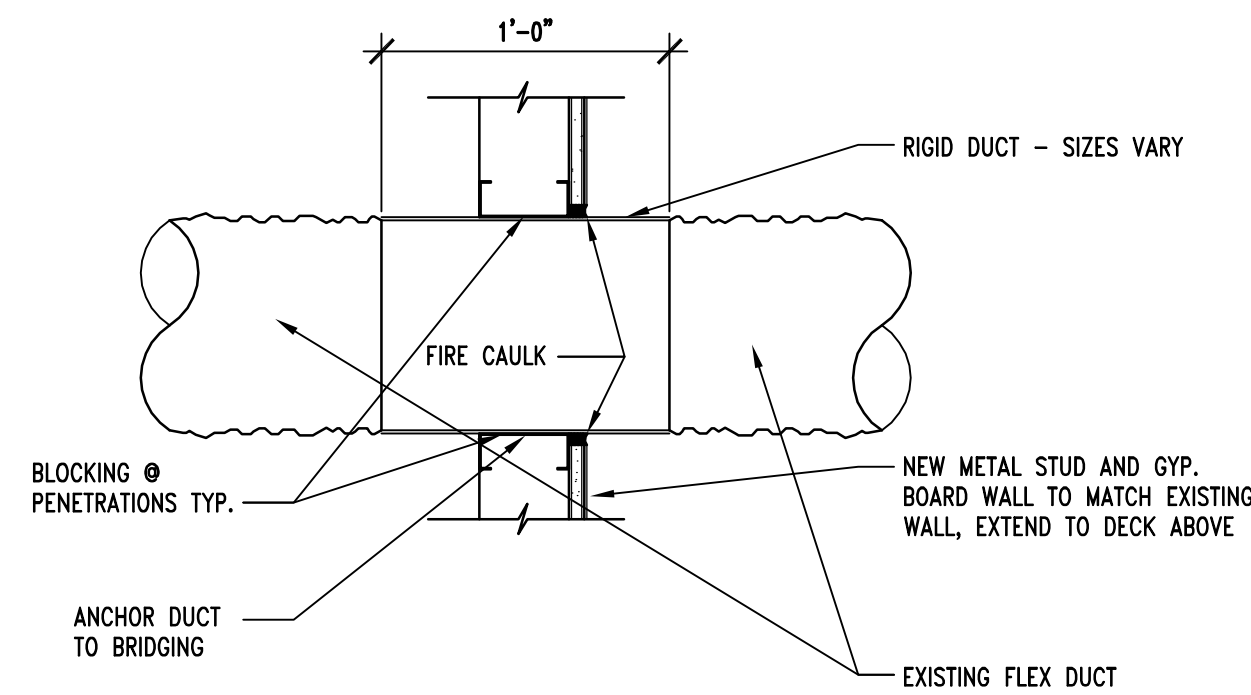
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KEY PLAN

SHEET TITLE

ALTERNATE #1

AE102



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**SOUTHERN
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UNIVERSITY BUILDING # 70
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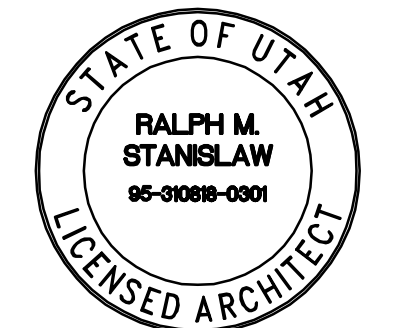
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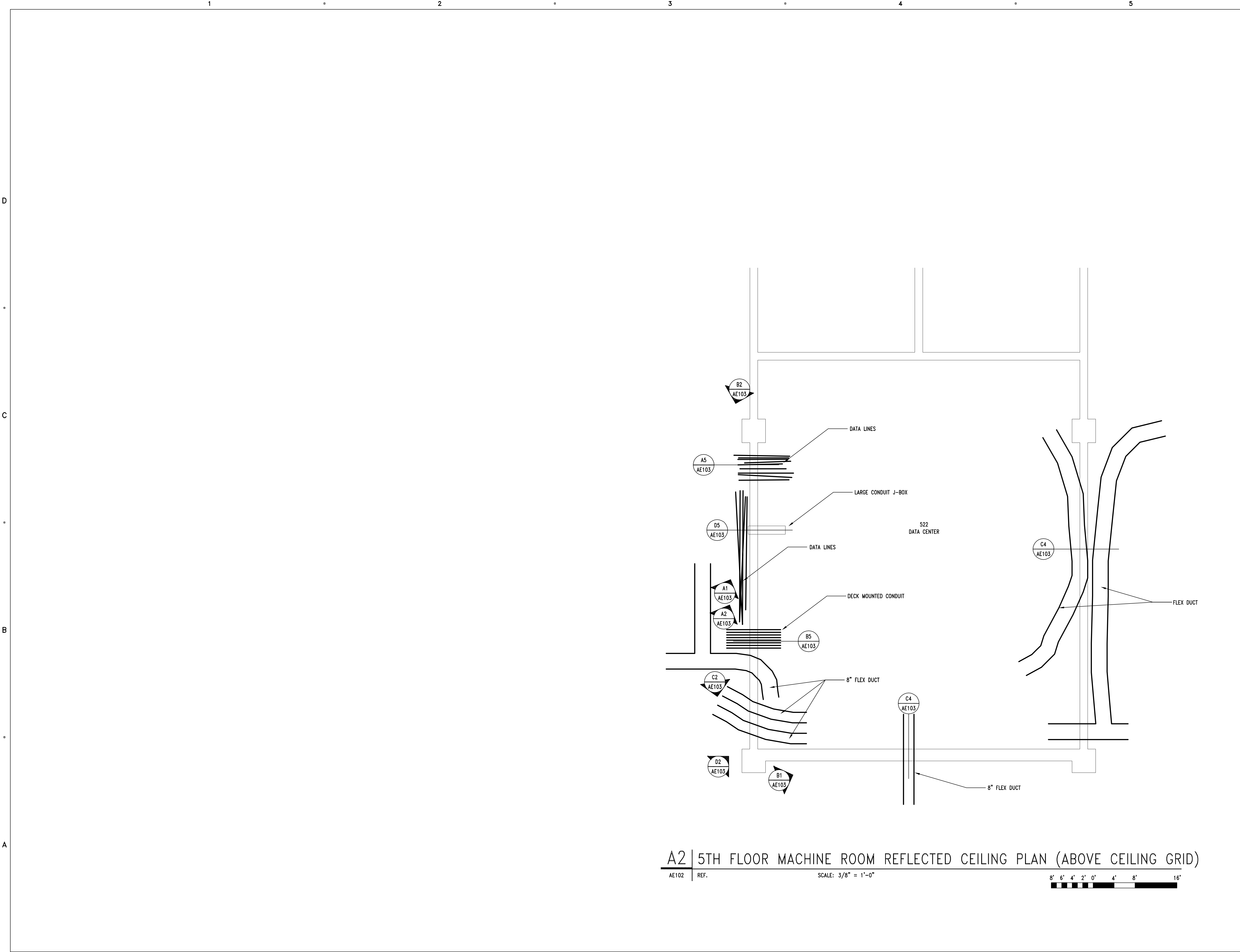
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KEY PLAN

SHEET TITLE

ALTERNATE #1 DETAILS

AE103



A2 | 5TH FLOOR MACHINE ROOM REFLECTED CEILING PLAN (ABOVE CEILING GRID)
AE102 | REF. SCALE: 3/8" = 1'-0" 8' 6' 4' 2' 0' 4' 8' 16'

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STATE OF UTAH
RALPH M.
STANISLAW
95-31088-0001
LICENSED ARCHITECT

ISSUE

MARK	DATE	DESCRIPTION

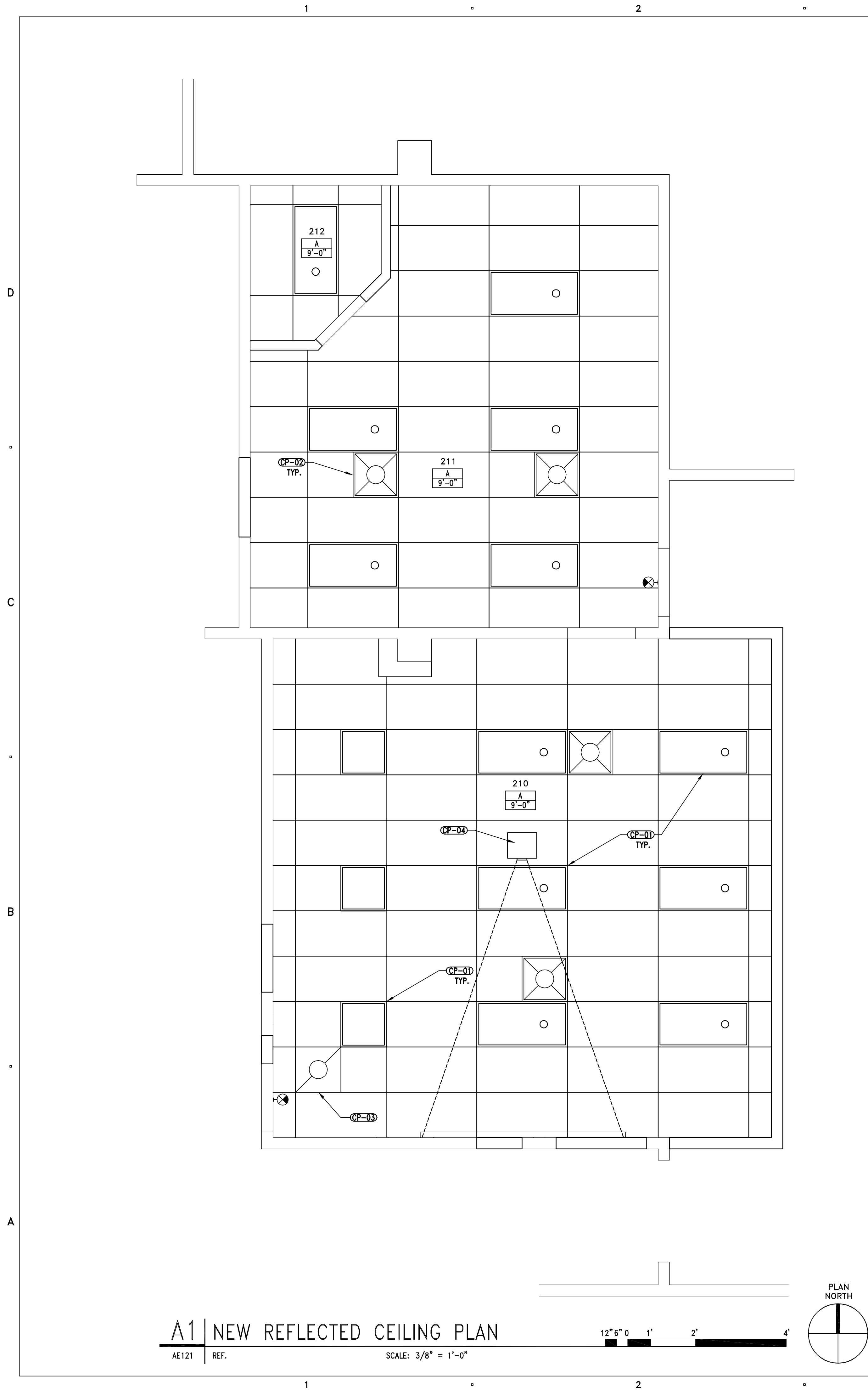
DFCM CONTRACT NO: 077005
DFCM PROJECT NO: 06128730
ARCHIPLEX PROJECT NO: 0618.01
DRAWN BY: E. RUSTEN
CHECKED BY: R. STANISLAW
SCALE: AS SHOWN
DATE: OCTOBER 27, 2006

KEY PLAN

SHEET TITLE

ALTERNATE #1
DETAILS

AE104



GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
2. DO NOT SCALE DRAWINGS.
3. CEILING HEIGHT SHOWN IN ROOM TAG INDICATES HEIGHT OF DOMINANT CEILING FINISH. SEE NOTES FOR ADDITIONAL CEILING FINISH INFORMATION.
4. ALL DIMENSIONS ARE TO FACE OF WALL, UNLESS NOTED OTHERWISE.
5. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LIGHTING AND DIFFUSER INFORMATION.
6. CEILING TILE TO MATCH EXISTING

REFLECTED CEILING PLAN KEYNOTES

CP-01	LIGHT FIXTURES - SEE ELECTRICAL
CP-02	SUPPLY AIR DIFFUSER - SEE MECHANICAL
CP-03	RETURN AIR DIFFUSER - SEE MECHANICAL
CP-04	PROJECTOR COORDINATE LOCATION W/ OWNER RE: 401/C5

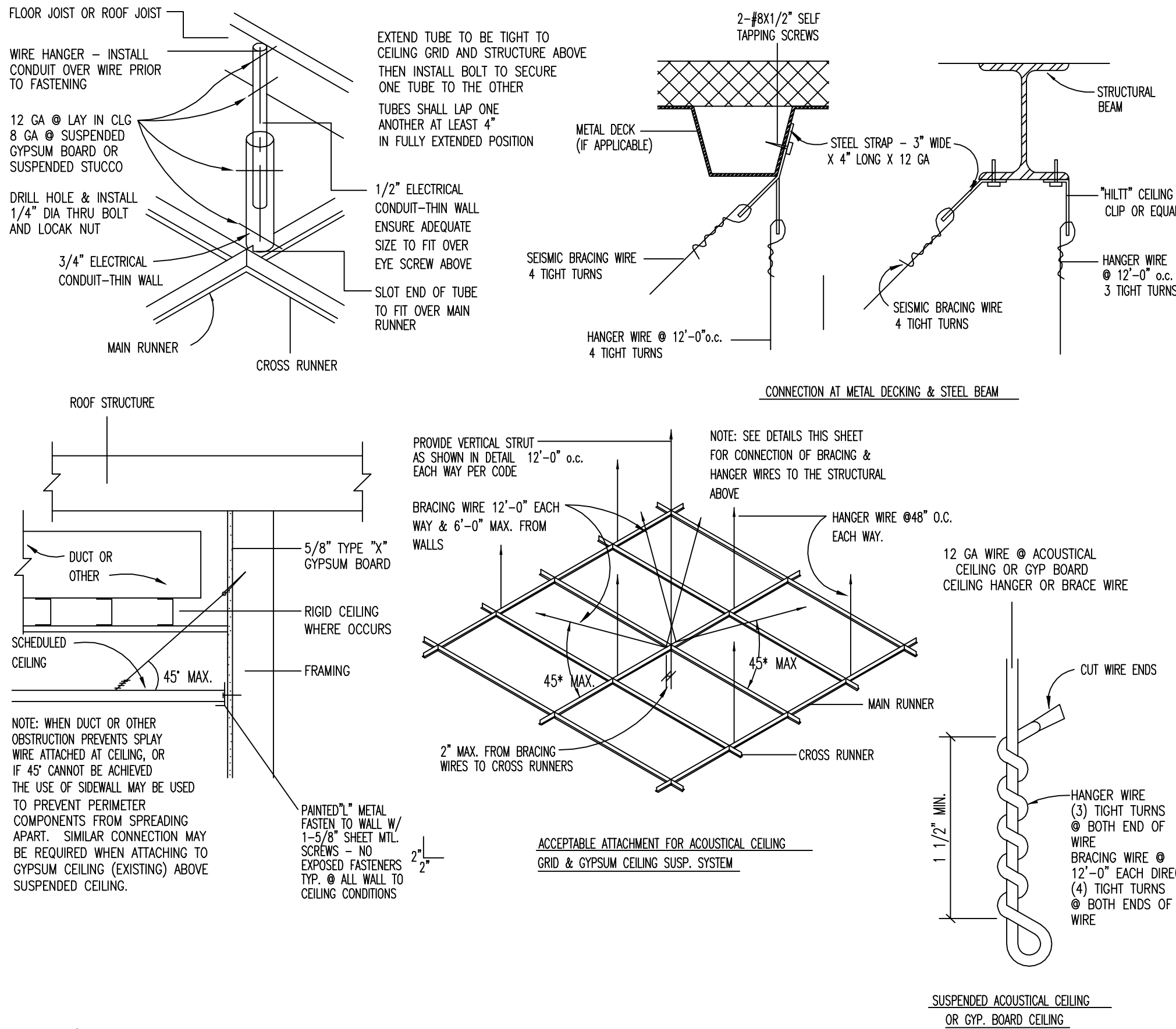
CEILING SYMBOLS

	2' x 4' FLUORESCENT LIGHT FIXTURE, SEE ELECT. DRAWINGS FOR TYPE.
	2' x 2' FLUORESCENT LIGHT FIXTURE, SEE ELECT. DRAWINGS FOR TYPE.
	SUPPLY AIR DIFFUSER (SEE MECH. DRAWINGS)
	RETURN AIR DIFFUSER (SEE MECH. DRAWINGS)
	EXIT SIGNS

REFLECTED CEILING PLAN LEGEND

TYPE A	ACOUSTICAL CEILING TILE RE: C3/AE121 FOR ADDITIONAL INFORMATION - NEEDS TO MATCH EXISTING CEILING TILE
--------	--

ROOM #	131
TYPE	30
ELEVATION	101
A.F.F.	



C3 SEISMIC DETAILS

AE121 REF.

SCALE: NTS

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STATE BUILDING # 204
433 WEST 100 SOUTH
CEDAR CITY, UTAH 84720

DESIGNER

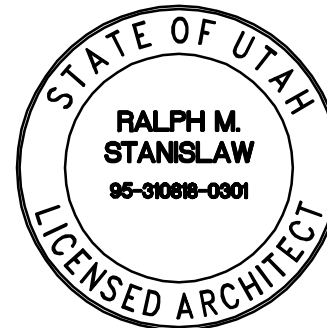
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MARK DATE DESCRIPTION

DFCM CONTRACT NO: 077005
DFCM PROJECT NO: 06128730
ARCHIPLEX PROJECT NO: 0618.01
DRAWN BY: E. RUSTEN
CHECKED BY: R. STANISLAW
SCALE: AS SHOWN
DATE: OCTOBER 27, 2006

KEY PLAN

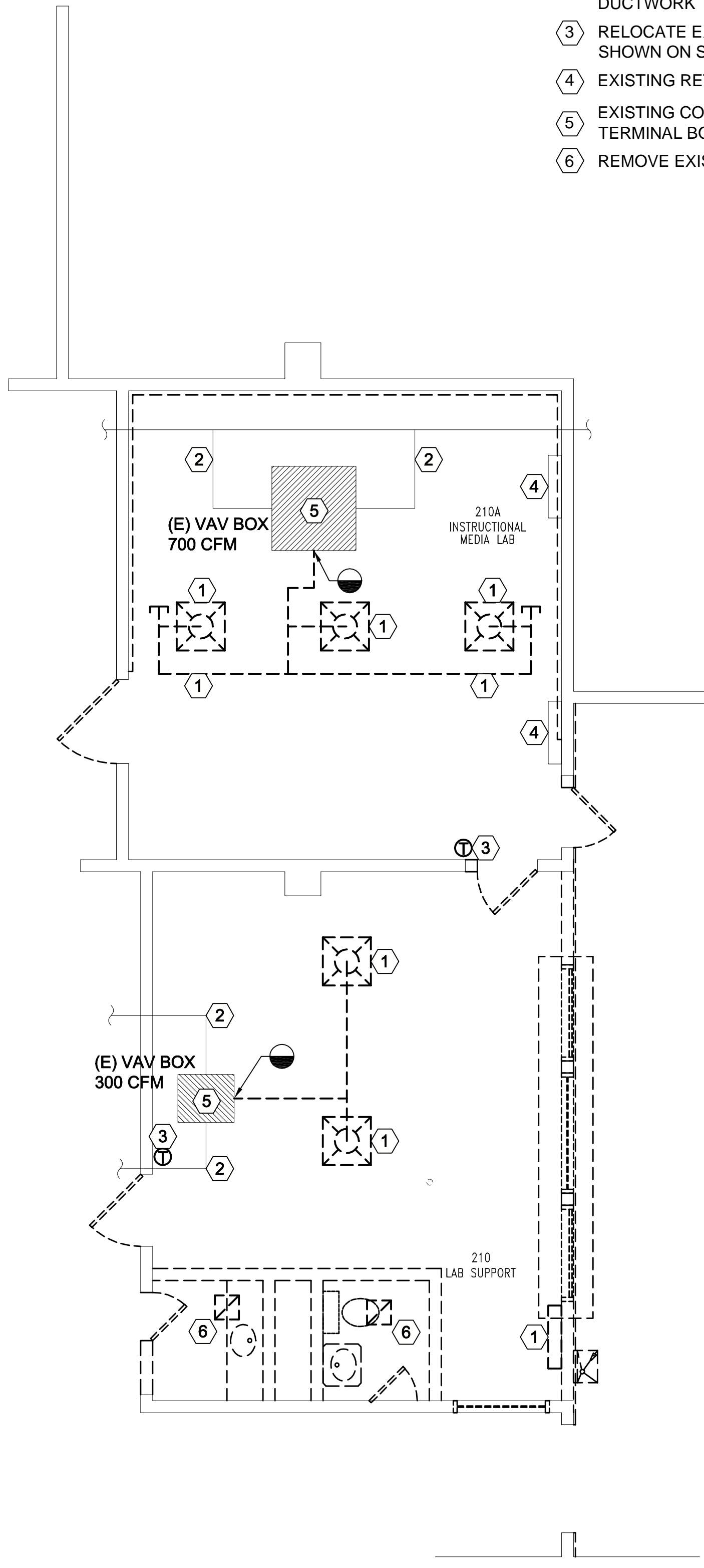
SHEET TITLE

REFLECTED
CEILING
PLAN AND
DETAILS

AE121

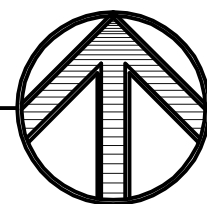
SHEET NOTES FOR DEMO PLAN:

- 1 LOW PRESSURE DUCTWORK AND GRILLES TO BE REMOVED AS SHOWN.
- 2 EXISTING MEDIUM PRESSURE DUCTWORK TO REMAIN
- 3 RELOCATE EXISTING T-STAT AS SHOWN ON SHEET ME101.
- 4 EXISTING RETURN GRILLE TO REMAIN
- 5 EXISTING CONSTANT VOLUME TERMINAL BOX TO REMAIN.
- 6 REMOVE EXISTING GRILLES.



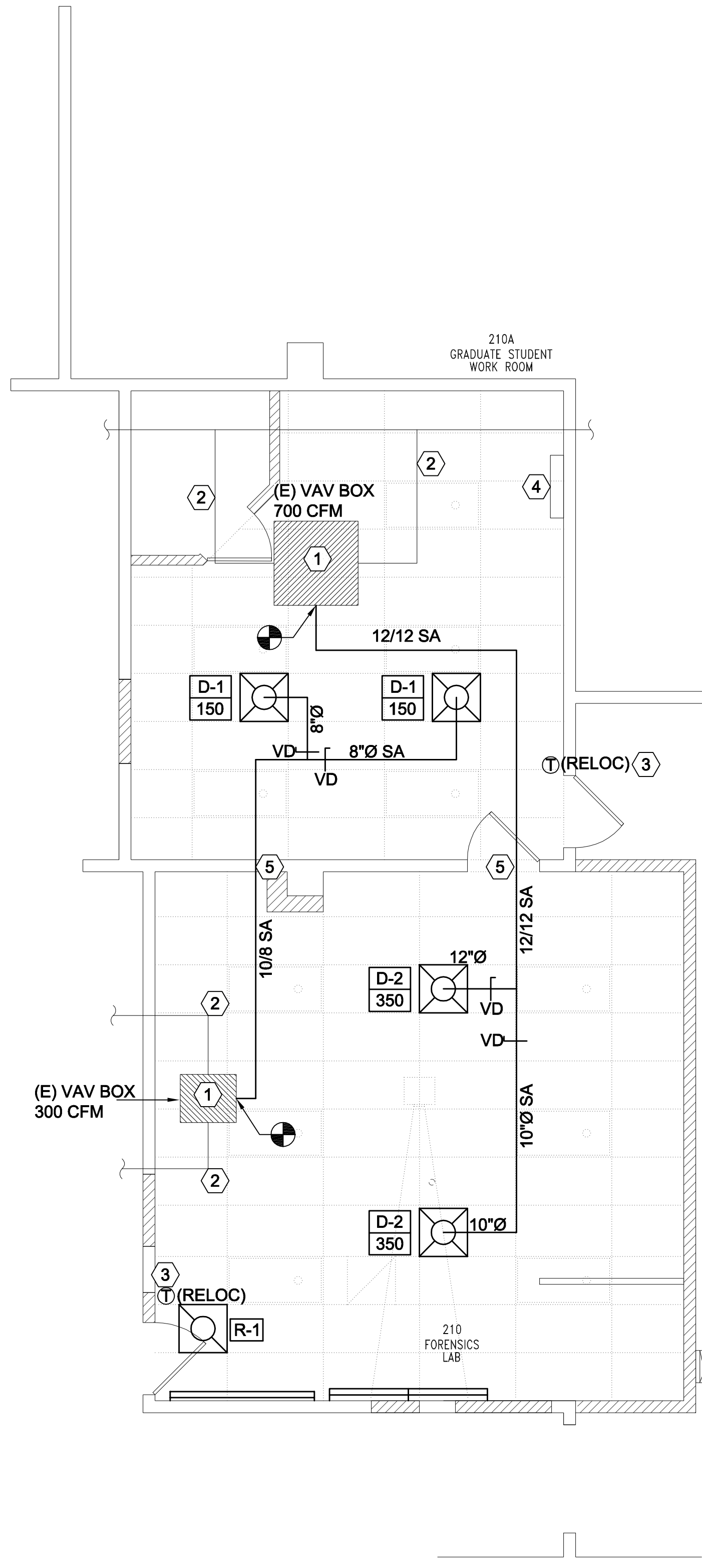
MECHANICAL DEMOLITION FLOOR PLAN

SCALE: 1/4" = 1'-0"



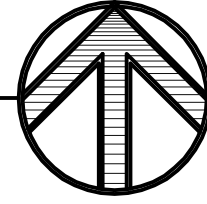
SHEET NOTES FOR NEW PLAN:

- 1 EXISTING CONSTANT VOLUME TERMINAL BOX TO REMAIN.
- 2 EXISTING HIGH PRESSURE DUCT SERVING VAV BOX TO REMAIN.
- 3 EXISTING THERMOSTAT TO BE RELOCATED TO LOCATION SHOWN.
- 4 EXISTING LOW RETURN TO REMAIN.
- 5 FIELD VERIFY EXACT PATH FOR NEW DUCTWORK.



MECHANICAL NEW FLOOR PLAN

SCALE: 1/4" = 1'-0"



GENERAL NOTE:

- 1 PLANS HAVE BEEN PREPARED BASED ON AS-BUILT DRAWINGS. THIS CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONING EQUIPMENT LOCATIONS, ETC. PRIOR TO PERFORMING WORK. ANY DISCREPANCIES, MODIFICATIONS, ETC. SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO MAKING CHANGES.
- 2 THIS PLUMBING PORTION IS A DESIGN BUILD PROJECT. DESIGN BUILD PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, OPERATION, FUNCTION, ETC. WHW ENGINEERING IS RESPONSIBLE ONLY FOR ITEMS EXPLICITLY CALLED OUT IN THEIR DRAWINGS, AND IS NOT LIABLE FOR ANY OTHER IMPLICIT REQUIREMENTS.
- 3 MAINTAIN EXISTING FIRE SPRINKLER SYSTEM DURING DEMOLITION AND NEW CONSTRUCTION.
- 4 ALL NEW RECTANGULAR DUCTWORK TO HAVE 1" DUCT LINER.

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PROFESSIONAL MECHANICAL ENGINEERING

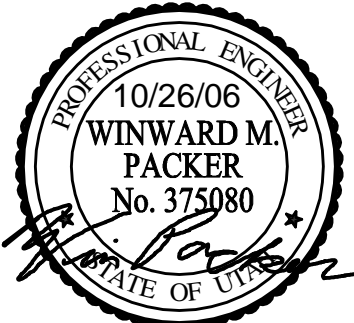
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ISSUE

MARK DATE DESCRIPTION

DFCM CONTRACT NO: 077005

DFCM PROJECT NO: 06128730

ARCHIPLEX PROJECT NO: 0618.01

DRAWN BY: PC

CHECKED BY: WP

SCALE:

DATE: OCTOBER 26, 2006

KEY PLAN

SHEET TITLE

MECHANICAL
FLOOR PLAN
NEW AND
DEMOLITION

ME101







LOW PRESSURE ROUND
DUCT CONSTRUCTION DETAIL

C1

SCALE: NONE



DIFFUSER SCHEDULE								
SYMBOL	TYPE	MAX CFM	FACE SIZE	NCK SIZE	CEILING TYPE	BLOW	PATTERN	SCHEDULE NOTES
	CEILING	200	9X9	8"Ø	LAY-IN	4--WAY		1,2,3,4
	CEILING	380	12X12	10"Ø	LAY-IN	4--WAY		1,2,3,4

1. PROVIDE LAY-IN CEILING AND BORDER / MODULE AS REQUIRED. SEE ARCHITECTURAL CEILING PLANS.
2. MAXIMUM NC 25 AT CFM LISTED.
3. TRANSITION AS REQUIRED TO DUCT WORK SHOWN ON PLAN.
4. PRICE SMD OR EQUAL BY TITUS, METALAIRE, OR KRUEGER.

FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LAMPS
A	2X4 RECESSED ZERO PLENUM TROFFER WITH METAL PERFORATED DIFFUSER AND STEP DIMMING	COLUMBIA: ZPT24-228G-PRF-S-EBS09SS-UNV	UNV	(2) FP28/835
A1	2X2 RECESSED ZERO PLENUM TROFFER WITH METAL PERFORATED DIFFUSER	COLUMBIA: ZPT22-214G-PRF-S-EBS09SS-UNV	UNV	(2) FP14/835

GENERAL NOTES

1. CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED UNDER DIVISION 15 WITH APPROVED MECHANICAL SHOP DRAWINGS BEFORE BEGINNING ROUGH IN.
4. SEE SPECIFICATIONS FOR REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
5. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
9. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR.
10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
11. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 165' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH MINIMUM #10 CONDUCTORS.

DEMOLITION NOTES

1. COORDINATE ALL NEW ELECTRICAL EQUIPMENT REQUIREMENTS AND MAKE CONNECTION TO EXISTING SYSTEMS. THIS INCLUDES LIGHTING, POWER, SIGNAL, RACEWAY AND OTHER SYSTEMS INCLUDED UNDER DIVISION 16.
2. RELOCATE, REWIRE AND/OR RECONNECT EXISTING ELECTRICAL DEVICES AND/OR EQUIPMENT THAT FOR ANY REASON OBSTRUCTS CONSTRUCTION.
3. CONCEAL ALL RACEWAY AND WIRING IN EXISTING WALLS, CEILINGS, FLOORS, ETC. EXCEPT WHERE THE USE OF SURFACE METAL RACEWAYS (E.G. WIRE MOLD) IS INDICATED ON DRAWINGS OR IN SPEC.
4. EXISTING RACEWAYS MAY BE REUSED (IN PLACE) WHERE POSSIBLE, AND WHERE IN COMPLIANCE WITH THE SPECIFICATIONS AND THE INTENT OF THE CONTRACT DOCUMENTS. INSURE INTEGRITY OF EXISTING RACEWAY BEFORE REUSE.
5. REMOVE ALL RACEWAYS, CONDUCTORS, BOXES, DEVICES, EQUIPMENT, ETC. THAT ARE NOT TO BE REUSED.
6. REMOVE EXISTING LIGHT FIXTURES, PLACE IN CARTON, LABEL APPROPRIATELY, AND RETURN TO OWNER, OR PROPERLY DISPOSE OF FIXTURES THAT THE OWNER CHOOSES NOT TO KEEP.
7. DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
8. DISCONNECT AND RECONNECT ANY/ALL FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED FOR PROPER COMPLETION OF THE WORK.

ELECTRICAL SYMBOL SCHEDULE

1. SET FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
2. HEIGHT MEASURED TO TOP LINE OF THE BOX FROM THE FINISH FLOOR.
3. REFERENCE TO DRAWINGS FOR LOCATION OF THE FIXTURE.
4. SUBSCRIPT KEY SWITCH TO FIXTURES CONTROLLED.
5. NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED), USE 'HD' 480 V.
6. HEIGHT TO THE LOWER 'C' OF THE '50' '60' '75' BELOW CEILING.
7. PUSHTUBS, PUSHTUBS, PUSHTUBS IS REQUIRED.
8. DOUBLE ARROWS DENOTE A DOUBLE FACE UNIT.
9. COORDINATE WITH MILLWORK SHOP FOR DRAWINGS AND ELEVATIONS FOR HEIGHT.
10. SUBSCRIPT DENOTES NUMBER OF FIXTURES.
11. HEIGHT MEASURED TO BOTTOM OF THE BOX FROM FINISH FLOOR.

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS			
SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
	ONE CIRCUIT, TWO WIRE HOME RUN TO PANEL		
	2 CIRCUIT, 3 WIRE, COMMON NEUTRAL HOME RUN		
	3 CIRCUIT, 4 WIRE, COMMON NEUTRAL HOME RUN		
	CONDUIT RUN CONCEALED IN WALL OR CEILING		
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
	CONDUIT UP		
	CONDUIT DOWN		
	CONDUIT STUB LOCATION	CAP CONDUIT	
	CEILING LIGHT FIXTURE	CEILING	1.
	WALL LIGHT FIXTURE	AS NOTED	1.
	RECESSED DOWNLIGHT FIXTURE	CEILING	1.
	FUORESCENT LIGHT FIXTURE	AS NOTED	1
	FUORESCENT EGRESS LIGHT FIXTURE	AS NOTED	UNSWITCHED
	CEILING MOUNTED EXIT LIGHT	CEILING	1.3.8.
	WALL MOUNTED EXIT LIGHT	AS NOTED	1.3.8.
	SINGLE POLE SWITCH	+4'-0"	2.
	SINGLE POLE SWITCH	+4'-0"	4. 2.
	THREE-WAY SWITCH	+4'-0"	2.
	FOUR-WAY SWITCH	+4'-0"	2.
	DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	DUPLEX RECEPTACLE		9.
	ELECTRIC WATER COOLER RECEPTACLE		SEE DIAGRAM
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	FOURPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	FLOOR OUTLET WITH 20A DEVICE	FLOOR	
	MULTIPLE SERVICE FLOOR BOX	FLOOR	
	PLUGMOLD	+46" OR AS NOTED	
	DATA OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE/DATA OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE OUTLET	FLOOR	
	JUNCTION BOX ("F" IN FLOOR)	AS NOTED	
	MOTOR OUTLET	TO SUIT EQUIP.	
	PANEL BOARD	TOP AT +6'-0"	
	MAIN DISTRIBUTION PANEL		
	TELEPHONE TERMINAL BOARD		
	SMOKE DETECTOR	CEILING	
	HEAT DETECTOR	CEILING	
	CLOSED CIRCUIT TELEVISION CAMERA	AS NOTED	
	ARCHITECTURAL ROOM NUMBER		
	LIGHT FIXTURE (LETTER DESIGNATES TYPE)		
	EQUIPMENT NUMBER		

INDEX OF ELECTRICAL DRAWINGS

E-001	SYMBOLS, NOTES AND SCHEDULES
E-002	ELECTRICAL SPECIFICATIONS
E-101	DEMOLITION PLAN
E-201	LIGHTING PLAN
E-301	POWER PLAN
E-401	ELECTRICAL DIAGRAMS

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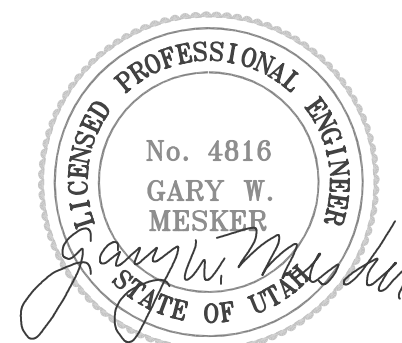
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ISSUE

	11-28-06	REVIEW COMMENTS
MARK	DATE	DESCRIPTION

DFCM CONTRACT NO:	077005
DFCM PROJECT NO:	06128730
BNA PROJECT NO:	06264SG.01
DRAWN BY:	J. TRUJILLO
CHECKED BY:	L. REMBER
SCALE:	AS NOTED
DATE:	OCTOBER 27, 2006
KEY PLAN	

SHEET TITLE

SYMBOLS, NOTES AND SCHEDULES

E-001

By: skyler, Dec 01, 2008 - 10:29am
S:\2008\2643\DRAW\2644-E002.dwg

ELECTRICAL SPECIFICATIONS

GENERAL PROVISIONS

- A. REFERENCE
1. THE GENERAL CONDITIONS AND OTHER CONTRACT DRAWINGS AS SET FORTH IN THE FOREGOING PAGES ARE HEREBY INCORPORATED INTO AND BECOME A PART OF THE SPECIFICATIONS FOR WORK UNDER THIS TITLE, INsofar AS THEY APPLY HERETO.
 2. ALL SPECIFICATIONS UNDER THIS DIVISION TITLE ARE DIRECTED TO AND ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. UNLESS OTHER TRADES OR PERSONS ARE SPECIFICALLY MENTIONED, "ELECTRICAL CONTRACTOR" IS INFERRED AND INTENDED.
- B. CONTRACT DRAWINGS
1. THE DRAWINGS ACCOMPANYING THESE SPECIFICATIONS ARE COMPLEMENTARY EACH TO THE OTHER AND WHAT IS CALLED FOR BY ONE SHALL BE AS IF CALLED FOR BY BOTH.
 2. CONSULT ALL CONTRACT DRAWINGS WHICH MAY AFFECT THE LOCATION OF EQUIPMENT, CONDUIT AND WIRING AND MAKE MINOR ADJUSTMENTS IN LOCATION TO SECURE COORDINATION.
 3. WIRING LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY FIELD CONDITIONS.
 4. OTHER THAN MINOR ADJUSTMENTS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE PROCEEDING WITH THE WORK.
- C. JOB-SITE COPY OF DOCUMENTS
1. MAINTAIN AT THE SITE, ONE COPY OF ALL DRAWINGS, SPECIFICATIONS, ADDENDA APPROVED SHOP DRAWINGS, CHANGE ORDERS AND OTHER MODIFICATIONS, IN GOOD ORDER AND MARKED TO RECORD ALL CHANGES MADE DURING CONSTRUCTION. THESE SHALL BE AVAILABLE TO THE OWNER'S REPRESENTATIVE. THE DRAWINGS MARKED TO RECORD ALL CHANGES MADE DURING CONSTRUCTION SHALL BE DELIVERED TO THE OWNER'S REPRESENTATIVE FOR THE OWNER UPON COMPLETION OF THE WORK. AN ADDITIONAL SET OF DRAWINGS WILL BE FURNISHED BY THE OWNER'S REPRESENTATIVE FOR THIS PURPOSE UPON REQUEST.
- D. MANUFACTURER'S DRAWINGS
1. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR REVIEW, (6) COPIES OF MANUFACTURER'S DRAWINGS AND WIRING DIAGRAMS. THE ENGINEER WILL REVIEW CONTRACTOR'S SHOP DRAWINGS AND RELATED SUBMITTALS (AS INDICATED BELOW) WITH RESPECT TO THE ABILITY OF THE DETAILED WORK, WHEN COMPLETE, TO BE A PROPERLY FUNCTIONING INTEGRAL ELEMENT OF THE OVERALL SYSTEM DESIGNED BY THE ENGINEER. BEFORE SUBMITTING A SHOP DRAWING OR ANY RELATED MATERIAL TO THE ENGINEER, CONTRACTOR SHALL: REVIEW EACH SUCH SUBMISSION FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATIONS OF CONSTRUCTION, AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF CONTRACTOR; APPROVE EACH SUCH SUBMISSION BEFORE SUBMITTING IT; AND SO STAMP EACH SUCH SUBMISSION BEFORE SUBMITTING IT. THE ENGINEER SHALL ASSUME THAT NO SHOP DRAWING OR RELATED SUBMITTAL COMPRISES A VARIATION UNLESS CONTRACTOR ADVISES ENGINEER OTHERWISE VIA A WRITTEN INSTRUMENT WHICH IS ACKNOWLEDGED BY ENGINEER IN WRITING. THE ITEMS, TYPES OF SUBMITTALS AND RELATED MATERIAL (IF ANY) CALLED FOR ARE INDICATED BELOW:

ITEMS	TYPE SUBMITTALS REQUIRED
LIGHTING AND POWER PANELS	SHOP DRAWINGS
LIGHTING FIXTURES	CATALOG CUTS
LIGHTING CONTROL EQUIPMENT	CATALOG CUTS
EMERGENCY LIGHTING EQUIPMENT	CATALOG CUTS

E. GUARANTEES

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF SUBSTANTIAL COMPLETION AS DETERMINED BY THE OWNER'S REPRESENTATIVE. PRODUCT GUARANTEES GREATER THAN ONE (1) YEAR SHALL BE PASSED ALONG TO THE OWNER FOR FULL BENEFIT OF THE MANUFACTURER'S WARRANTY.

- WORK INCLUDED
- A. INSTALLATION, MATERIALS, AND WORKMANSHIP
1. FURNISH AND INSTALL ALL NECESSARY ANCHORS, SUPPORTS, STRAPS, BOXES, FITTINGS AND OTHER SIMILAR APPURTENANCES NOT INDICATED ON THE DRAWINGS BUT WHICH ARE REQUIRED FOR A COMPLETE AND PROPERLY INSTALLED SYSTEM CONSISTENT WITH THE ARCHITECTURAL TREATMENT OF THE BUILDING.
 2. THE ELECTRICAL CONTRACTOR, INsofar AS THE WORK IS CONCERNED, SHALL AT ALL TIMES KEEP THE PREMISES IN A NEAT AND ORDERLY CONDITION, AND AT THE COMPLETION OF THE WORK, SHALL PROPERLY CLEAN UP AND CART AWAY DEBRIS AND EXCESS MATERIALS. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF DUMPSTER & REFUSE DISPOSAL AS REQUIRED FOR ELECTRICAL WORK.
 3. ALL MATERIALS SHALL BE NEW AND UNDETERIORATED AND OF A QUALITY NOT LESS THAN THE MINIMUM SPECIFIED.
- B. COORDINATION OF PLANS AND SPECIFICATIONS
1. CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY IF THERE IS ANY QUESTIONS REGARDING THE MEANING OR INTENT OF EITHER PLANS OR SPECIFICATIONS, OR UPON NOTICING ANY DISCREPANCIES OR OMISSIONS IN EITHER PLANS OR SPECIFICATIONS.

- C. CUTTING AND PATCHING
1. PATCHING SHALL MATCH EXISTING SURFACES IN KIND AND FINISH AND SHALL BE DONE BY THE GENERAL CONTRACTOR AT THE ELECTRICAL CONTRACTOR'S EXPENSE.
 2. REPAIR OF DAMAGES, BY THE ELECTRICAL CONTRACTOR, TO NEWLY PATCHED AND REFINISHED AREAS SHALL BE DONE BY THE GENERAL CONTRACTOR AT THE ELECTRICAL CONTRACTOR'S EXPENSE, TO MATCH EXISTING CONDITION.
 3. WHERE REQUIRED TO MAINTAIN FIRE RATING, OPENINGS SHALL BE SEALED UTILIZING 3M BRAND FIRE BARRIER PENETRATION SEALING SYSTEMS. FIRE BARRIER OR FIRE STOP SYSTEMS FROM CROUSE-HINDS, THOMAS & BETTS OR DOW CORNING MAY BE USED AT CONTRACTOR'S OPTION. THIS INCLUDES HOLES LEFT DUE TO REMOVAL OF EXISTING CONDUITS, BUS DUCT,ETC. OPENINGS SHALL BE TEMPORARILY FIRE STOPPED UNTIL PERMANENT FIRE STOPPING IS DONE.
- D. CLEANING AND PAINTING
1. ALL ELECTRICAL EQUIPMENT SHALL BE KEPT DRY AND CLEAN DURING THE CONSTRUCTION PERIOD. INTERIOR OF ALL ENCLOSURES SHALL BE CLEANED OF DIRT AND DEBRIS BEFORE INSTALLING TRIM OR COVERS.
 2. ALL FINISHED SURFACES OF EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE THOROUGHLY CLEANED OF DIRT AND ALL SCRATCHED OR DAMAGED SURFACES SHALL BE TOUCHED UP WITH MATCHING MATERIALS BEFORE FINAL ACCEPTANCE OF THE WORK.
 3. WHEN ALL WORK IS COMPLETED AND ALL WORK HAS BEEN SATISFACTORILY TESTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE, ALL CONDUIT AND OTHER EXPOSED SURFACES SHALL BE THOROUGHLY CLEANED.

CODES AND FEES

- A. CODES:
1. ALL WORK PERFORMED UNDER THIS SPECIFICATION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS PREPARED AND PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION AND ANY APPLICABLE STATE OR LOCAL CODES.
- B. FEES:
1. OBTAIN AND PAY FOR ANY AND ALL PERMITS REQUIRED BY ALL LAWS AND REGULATIONS AND PUBLIC AUTHORITY HAVING SUCH JURISDICTION.

TESTS AND INSPECTIONS

- A. OBTAIN ALL INSPECTIONS REQUIRED BY ALL LAWS, ORDINANCES, RULES, REGULATIONS OR PUBLIC AUTHORITY HAVING JURISDICTION AND OBTAIN CERTIFICATES OF SUCH INSPECTIONS AND SUBMIT SAME TO THE OWNER'S REPRESENTATIVE. PAY ALL FEES, CHARGES AND OTHER EXPENSES IN CONNECTION THEREIN. OBTAIN OCCUPANCY PERMIT AS REQUIRED BY OWNER. FINAL PAYMENT SHALL NOT BE MADE UNTIL OCCUPANCY PERMIT IS OBTAINED.
- B. WORK SHALL BE UNACCEPTABLE WHEN FOUND TO BE DEFECTIVE OR CONTRARY TO THE PLANS SPECIFICATIONS, CODES SPECIFIED OR ACCEPTED STANDARDS OF GOOD WORKMANSHIP.
- C. THE CONTRACTOR SHALL PROMPTLY CORRECT ALL WORK FOUND UNACCEPTABLE BY THE BY THE OWNER'S REPRESENTATIVE, WHETHER OBSERVED BEFORE OR AFTER SUBSTANTIAL COMPLETION AND WHETHER OR NOT FABRICATED, INSTALLED OR COMPLETED. THE CONTRACTOR SHALL BEAR ALL COSTS OF CORRECTING SUCH UNACCEPTABLE WORK, INCLUDING COMPENSATION FOR THE OWNERS REPRESENTATIVE ADDITIONAL SERVICES MADE NECESSARY THEREBY.

CONDUIT

- A. FURNISH AND INSTALL ALL CONDUITS, BOXES, FITTINGS, ETC., FOR A COMPLETE RACEWAY SYSTEM.
- B. ALL WIRING SHALL BE RUN IN EMT CONDUIT OR MC WITH GROUND CONDUCTOR UNLESS OTHERWISE NOTED.
- C. ALL CONDUIT SIZES STATED HEREIN OR MARKED ON THE DRAWINGS ARE MINIMUM SIZE AND SHALL BE NO LESS THAN 3/4" UNLESS OTHERWISE NOTED.
- D. ALL CONDUIT SHALL BE SUBSTANTIALLY SUPPORTED BY PIPE STRAPS OR SUITABLE CLAMPS OR HANGERS ATTACHED TO THE ELEMENTS OF THE BUILDING STRUCTURE TO PROVIDE RIGID INSTALLATION; IN NO CASE SHALL CONDUIT BE ATTACHED OR SUPPORTED FROM ADJOINING PIPE OR INSTALLED IN SUCH A MANNER AS TO PREVENT THE READY REMOVAL OF OTHER PIPE FOR REPAIRS.

WIRE AND CABLE

- A. ALL CONDUCTORS SHALL BE COPPER AND OF THE AWG SIZE AND TYPE SHOWN ON THE DRAWINGS. WHERE NO SIZE OR TYPE IS SHOWN, CONDUCTORS SHALL NOT BE LESS THAN #12 TYPE XHHW, THHN, OR THWN. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED COPPER AND HAVE 600 VOLT INSULATION; BE UL LABELED AND OF AMERICAN MANUFACTURER.
- B. ALL CONNECTIONS ARE TO BE MADE USING PRESSURE TYPE TERMINALS.
- C. THE FOLLOWING COLOR CODE SHALL BE USED:

	120/208 VOLT
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUND	GREEN

D. CONDUCTORS NO. 10 AWG OR SMALLER SHALL HAVE INSULATION COLORED AS NOTED ABOVE.

E. CONDUCTORS NO. 8 AWG OR LARGER SHALL HAVE INSULATION COLORED AS NOTED ABOVE OR COLORED TAPE, MINIMUM SIZE 1/2", WRAPPED TWICE AROUND AT THE FOLLOWING POINTS:

- 1) AT EACH TERMINAL.
- 2) AT EACH CONDUIT ENTRANCE.
- 3) AT INTERVALS NOT MORE THAN 12 INCHES APART IN ALL BOXES, PANEL TUBS, SWITCHBOARDS, ETC.

F. ALL BRANCH CIRCUITS SHALL BE MARKED IN THE PANELBOARD GUTTERS. MARKERS SHALL INDICATE CORRESPONDING BRANCH-CIRCUIT NUMBERS.

G. EACH BRANCH CIRCUIT REQUIRING A NEUTRAL SHALL BE FURNISHED WITH A SEPARATE INDIVIDUAL NEUTRAL CONDUCTOR.

BOXES AND PLATES

- A. FURNISH AND INSTALL ALL OUTLET, JUNCTION, AND PULLBOXES AS INDICATED ON THE DRAWINGS AND AS NECESSARY TO INSTALL THE REQUIRED CONDUIT AND WIRING IN A NEAT AND WORKMANLIKE MANNER.
- B. PULLBOXES AND JUNCTION BOXES SHALL BE GALVANIZED AND OF THE CORRECT SIZE AND GAUGE, SIZED IN ACCORDANCE WITH CODE REQUIREMENTS AND SHALL BE U.L. LABELED.
- C. FLUSH OUTLET, JUNCTION AND PULLBOXES SHALL BE PRESSED STEEL GALVANIZED OR SHERARDIZED AND SHALL BE A MINIMUM OF 4" SQUARE OR OCTAGONAL SIMILAR TO APPLETON #40. STEEL BOXES CAST IN CONCRETE SHALL BE DESIGNED FOR CONCRETE INSTALLATION.
- D. FLUSH WALL BOXES IN TILE, MARBLE, BRICK OR OTHER FINISHED MASONRY WALLS SHALL BE STEEL CITY QW-135-C SERIES OR RAO 695 SERIES.
- E. BOXES AT EXTERIOR AREAS TO BE WATERTIGHT AND DUST-TIGHT WITH GASKETED COVERS.
- F. ALL BOXES FOR EXPOSED WORK IN FINISHED SPACES SHALL BE "TS" TYPE WITH THREADED HUBS WITH RIGID CONDUIT RISER (DEEP WIREMOLD BOXES).
- G. SWITCH PLATES ON FLUSH AND CAST BOXES SHALL BE SIERRA NOS. S-IN, (P-1), S-2N (P-2), S-3N (P-3) ETC., AS REQUIRED, AND SHALL BE MADE OF SATIN FINISH #302 STAINLESS STEEL.
- H. DUPLEX RECEPTACLE PLATES ON FLUSH AND CAST BOXES SHALL BE SIERRA NO. S-8N (P-8) SATIN FINISH #302 STAINLESS STEEL.
- I. ALL BOXES SHALL BE RIGIDLY SUPPORTED FROM BUILDING STRUCTURE INDEPENDENT OF THE CONDUIT SYSTEM. BOXES CAST INTO MASONRY OR CONCRETE ARE CONSIDERED TO BE RIGIDLY SUPPORTED.

WIRING DEVICES

- A. WIRING DEVICES SHALL BE SIMILAR TO THOSE LISTED BELOW AND OF SPECIFIED AMPERAGE. OTHER SPECIAL PURPOSE DEVICES SHALL BE AS SPECIFIED ON THE DRAWINGS.
- B. DUPLEX GROUNDING TYPE RECEPTACLE - 20 AMP, 125 VOLT - NEMA 5-20R
- HUBBELL - 5352
- ARROW HART - 5352
- C. SINGLE POLE SWITCHES - 20 AMP, 120 VOLT
- HUBBELL - 1221
- ARROW HART - 1221
- D. 3-WAY SWITCHES - 20 AMP, 120 VOLT
- HUBBELL - 1223
- ARROW HART - 1273
- E. WEATHERPROOF RECEPTACLES - 20 AMP, 125 VOLT - NEMA 5-20R
- HUBBELL - 5352 WITH 5205 COVER INTERMATIC GUARDIAN I SERIES, NEMA 3R COVER
- ARROW HART - 5352 WITH 4500 COVER
- F. G.F.I. RECEPTACLE - 20 AMP, 125 VOLT - NEMA 5-20R
- HUBBELL - GF 5262 WITH MATCHING NYLON COVER PLATE OR WP-26 W.P. COVER
- G. GROUND ALL RECEPTACLES IN ACCORDANCE WITH ARTICLE 250-146 OF NEC AND AS INDICATED IN THE GROUNDING SECTION OF THIS SPECIFICATION.

IDENTIFICATION

- A. EACH PIECE OF SERVICE EQUIPMENT AND INDIVIDUAL SWITCHES, ALL DISCONNECTS, STARTERS, ALL EXHAUST FAN MANUAL STARTING SWITCHES.
- B. IDENTIFICATION SHALL BE IN THE FORM OF LAMINATED PLASTIC NAMEPLATES, BLACK FACE, WITH THE LETTERS ENGRAVED INTO THE WHITE BACKGROUND, MINIMUM 1/4" HIGH. PLATES SHALL BE DRILLED ON EACH END FOR SHEET METAL SCREW ATTACHMENT. NO "DYMCO" OR SIMILAR TYPE LABELS WILL BE ALLOWED.
- C. PANELBOARD DIRECTORY: A TYPED CIRCUIT DIRECTORY SHALL BE PROVIDED INDICATING LOCAL AREA SERVED AND LOCATION FOR EACH BRANCH CIRCUIT.

GROUNDING

- A. ALL FEEDERS AND BRANCH CIRCUITS OVER 100 VOLTS SHALL INCLUDE A GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH NEC TABLE 250-122, EXCEPT NOT BE SMALLER THAN #12 FOR POWER AND LIGHTING CIRCUITS AND #14 FOR CONTROL CIRCUITS. ALL GROUND CONDUCTORS SHALL BE GREEN, OR AS SPECIFIED UNDER SECTION 16120, "WIRE AND CABLE".
- B. ALL GROUND CLAMPS SHALL BE PENN-UNION "GPL" TYPE OR SIMILAR BY O.Z. OR BURNDY.
- C. CONDUIT FOR SOLITARY GROUND CONDUCTORS SHALL BE RIGID SCHEDULE 40PVC NON-METALLIC ELECTRICAL CONDUIT WITH U.L. LABEL. SOLITARY GROUND CONDUCTORS SHALL NOT BE PLACED THROUGH METALLIC SLEEVES OR CONDUITS AND SHALL NOT BE COMPLETELY ENCIROLED BY METALLIC HANGERS OR SUPPORTS.
- D. THE GROUND CONDUCTOR SHALL BE CONNECTED TO THE NEUTRAL IN ONLY TWO LOCATIONS - ON THE SUPPLY SIDE OF THE SERVICE DISCONNECT MEANS PER NEC-250-24 AND ON SEPARATELY DERIVED SYSTEMS PER NEC 250-30.
- E. AT EACH RECEPTACLE BOX, THE GROUND CONDUCTOR SHALL ENTER AND CONNECT, WITH NORMAL WIRING CONNECTORS, TO: 1) THE GROUND PIGTAIL TO RECEPTACLE; 2) THE GROUND PIGTAIL TO BOX GROUND SCREW; AND 3) THE OUTGOING GROUND CONDUCTOR TO NEXT DEVICE, IF NOT AT END OF RUN. METAL TO METAL CONTACT BETWEEN THE DEVICE YOKE AND THE OUTLET BOX IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES.
- F. CONDUIT SYSTEM SHALL BE ELECTRICALLY CONTINUOUS. ALL LOCK NUTS SHALL CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES. WHERE ENCLOSURES AND NON-CURRENT CARRYING METALS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. WHERE REDUCING WASHERS ARE USED AND WHERE CONCENTRIC OR ECCENTRIC KNOCKOUTS ARE NOT COMPLETELY REMOVED BONDING BUSHINGS SHALL BE REQUIRED.

INTERRUPTION OF SERVICE AND OWNER'S OPERATION

- A. THE ELECTRICAL CONTRACTOR SHALL ORGANIZE HIS WORK SO THAT THESE ALTERATIONS AND ADDITIONS SHALL CAUSE A MINIMUM OF INTERFERENCE AND DISTURBANCE TO THE OWNER. ARRANGEMENTS SHALL BE MADE WITH THE OWNER AND ENGINEER BEFORE INTERRUPTING SERVICE IN ANY AREA. A WRITTEN DETAILED METHOD OF INTERRUPTION PROCEDURE INDICATING ELAPSED TIME REQUIRED AND TIME OF INTERRUPTION SHALL BE PREPARED BY THE ELECTRICAL CONTRACTOR AND SUBMITTED TO THE OWNER FOR APPROVAL.
- B. ALL INTERRUPTIONS OF SERVICE SHALL BE MADE WHEN THE LOAD IS AT A MINIMUM AND SHALL BE SCHEDULED AT THE OWNER'S CONVENIENCE. (SERVICE INTERRUPTIONS WILL BE SCHEDULED FOR OTHER THAN NORMAL DAYTIME WORKING HOURS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE NECESSARY COST FOR OVERTIME LABOR IN ALL BIDS.)
- C. AT NO TIME SHALL THE ELECTRICAL CONTRACTOR OR HIS EMPLOYEES NORMALLY WORKING ON THE PROJECT LEAVE THE FACILITY DURING A TIME WHEN ANY NORMALLY LIVE CIRCUITS OR FEEDERS ARE DISCONNECTED, WITHOUT PERMISSION OF THE ENGINEER.
- D. ALL MATERIALS, CONNECTIONS AND EQUIPMENT FOR TEMPORARY CONTROL OR POWER WIRING TO MAINTAIN CONTINUITY OF SERVICE DURING CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

POWER AND LIGHTING PANELS

- A. FURNISH AND INSTALL, AS SCHEDULED AND SHOWN ON THE DRAWINGS, POWER PANELS FOR OPERATION ON VOLTAGES INDICATED.
- B. THE PANELS SHALL BE SQUARE D, TYPE NODD, NEHB OR I-LINE OR EQUAL, WITH BRANCH BREAKERS AS SCHEDULED ON THE DRAWINGS.
- C. ALL TERMINATIONS SHALL BE MARKED "75°C ONLY", "60/75°C" OR LISTED FOR USE OF 75°C INSULATED CONDUCTORS AT FULL 75°C AMPACITY.
- D. ALL BUS BARS SHALL BE SILVER OR TIN PLATED COPPER.
- E. CABINETS SHALL BE OF COMMERCIAL GALVANIZED SHEET STEEL, CODE GAUGE AND SIZE, SURFACE OR FLUSH MOUNTED AS CALLED FOR IN THE DRAWINGS. FLUSH PANELS SHALL BE FINISHED WITH PRIME COAT ONLY. DOORS SHALL BE FITTED WITH CHROME PLATED COMBINATION LOCK AND CATCH, AND ALL KEYS ALIKE.
- F. NEUTRAL ASSEMBLY SHALL HAVE INDIVIDUAL ANTI-TURN SOLDERLESS TERMINALS, SIMILAR TO SQUARE D TYPE PK, FOR CONNECTION OF ULTIMATE NUMBER OF NEUTRAL WIRES. SHEET METAL TERMINAL STRIPS AND CONNECTIONS WILL BE REJECTED.
- G. PANEL SHALL HAVE A COPPER GROUND BAR SIMILAR TO NEUTRAL BAR IN NUMBER, SIZE, AND TYPE OF ANTI-TURN SOLDERLESS LUGS. THIS GROUND BAR SHALL BE FACTORY BONDED TO THE PANEL TUB IN THE GUTTER SPACE OPPOSITE THE MAINS AND THE NEUTRAL ASSEMBLY AND SHALL HAVE THE SCREWDRIVER SLOTS FACING THE FRONT OF THE PANEL.
- H. THE MAIN AND BRANCH BREAKERS SHALL BE TYPE QOB OR QOB-H RATED 10,000 A.I.C. MINIMUM, MOLDED CASE, TEMPERATURE COMPENSATED, QUICK-MAKE, QUICK-BREAK, WITH THERMAL-MAGNETIC TRIP AND PERMANENTLY BOLTED TO BUS BARS.
- I. PANELS SHALL BE MOUNTED WITH TOP OF PANEL AT 6'-0" ABOVE FLOOR.

LIGHTING FIXTURES

- A. CONTRACTOR SHALL FURNISH AND INSTALL LIGHTING FIXTURES AND LAMPS AS INDICATED IN FIXTURE SCHEDULE SHOWN ON DRAWINGS, AND SPECIFIED HEREIN.
- B. LENS THICKNESS FOR FLUORESCENT FIXTURES SHALL BE 0.125 INCHES, MINIMUM (NOT NOMINAL) AND HAVE A MINIMUM WEIGHT OF 8.0 OUNCES PER SQUARE FOOT.
- C. LAMP SOCKETS FOR BARE TUBE FLUORESCENT FIXTURES SHALL BE SPRING LOADED TURRET TYPE.
- D. FLUSH FIXTURES MAY BE FURNISHED WITH PRE-WIRED FEATURE PROVIDED THEY ARE U.L. APPROVED FOR 75°C WIRING AND THE JUNCTION BOX CAPACITY IS SUFFICIENT FOR THE CIRCUIT WIRING REQUIREMENTS.
- E. CLEARANCES FOR RECESSED PORTIONS OF FIXTURES FROM COMBUSTIBLE MATERIAL AND THERMAL INSULATION, SHALL BE IN ACCORDANCE WITH NEC ARTICLE 410-66.
- F. ALL FLUORESCENT LAMP BALLAST SHALL BE ELECTRONIC WITH LESS THAN 20% HARMONIC DISTORTION. BALLAST SOUND LEVELS SHALL NOT EXCEED CLASS "A", AMBIENT NOISE LEVELS, HPF TYPE, WITH PARALLELING WIRING CONNECTION, BE CBM AND U.L. APPROVED. BALLAST MAY BE MANUFACTURED BY ADVANCE, TYPE MARK V; ETIA INDUSTRIES TYPE E2P; OR MAGNETEK-TRIAD, B SERIES; BY MOTROLA TYPE MOTRN.
- G. NEUTRAL ASSEMBLY SHALL HAVE INDIVIDUAL ANTI-TURN SOLDERLESS TERMINALS, SIMILAR TO SQUARE D TYPE PK, FOR CONNECTION OF ULTIMATE NUMBER OF NEUTRAL WIRES. SHEET METAL TERMINAL STRIPS AND CONNECTIONS WILL BE REJECTED.
- H. PANEL SHALL HAVE A COPPER GROUND BAR SIMILAR TO NEUTRAL BAR IN NUMBER, SIZE, AND TYPE OF ANTI-TURN SOLDERLESS LUGS. THIS GROUND BAR SHALL BE FACTORY BONDED TO THE PANEL TUB IN THE GUTTER SPACE OPPOSITE THE MAINS AND THE NEUTRAL ASSEMBLY AND SHALL HAVE THE SCREWDRIVER SLOTS FACING THE FRONT OF THE PANEL.

- I. ALL LAMP HOLDERS INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE FURNISHED COMPLETE WITH NEW LAMPS OF THE SIZE INDICATING ON THE FIXTURE SCHEDULE.
- J. FLUORESCENT LAMPS SHALL BE 32 WATT, T8 RAPID START LAMPS WITH A COLOR TEMPERATURE OF 3500°K AND A MINIMUM CRI OF 74. UNLESS NOTED OTHERWISE.
- K. LAMP CURRENT CREST FACTOR SHALL NOT EXCEED 1.8 AND SHALL BE COMPATIBLE WITH BALLAST BEING UTILIZED.
- L. ANY FIXTURES SCRATCHED, BENT, CRACKED OR IN ANY WAY DAMAGED BEFORE ACCEPTANCE BY OWNER SHALL BE REPLACED AT THIS CONTRACTOR'S EXPENSE.
- M. ALL LAMPS SHALL BE IN WORKING ORDER AT THE TIME OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER.
- N. ALL LIGHTING FIXTURES ARE TO BE GROUNDED ON THE INTERIOR OF THE FIXTURE HOUSING, ON CLEAN BARE METAL (FREE OF PAINT), BY USE OF A PIGTAIL AND FASTENED BY A SCREW USED FOR NO OTHER PURPOSE.
- O. WHEREVER LIGHTING SYSTEMS ARE SUPPORTED AND FASTENED TO A CEILING SUSPENSION SYSTEM OF THE GRID TYPE, EACH FIXTURE SHALL HAVE A SUPPORT WIRE AT OPPOSITE CORNER OF EACH RECESSED FIXTURE. EACH FIXTURE SHALL BE FASTENED TO THE GRID SYSTEM IN ACCORDANCE WITH NEC ARTICLE 410-16(C) USING SUITABLE CLIPS. THE T-BAR SHALL NOT BE CUT OUT TO PROVIDE ROOM FOR THE JUNCTION BOX.

MOTOR STARTERS AND CIRCUIT DISCONNECTS

- A. GENERAL: EXCEPT AS OTHERWISE INDICATED, PROVIDE MOTOR STARTERS, DISCONNECT SWITCHES, WHICH COMPLY WITH MANUFACTURER'S STANDARD MATERIALS, DESIGN AND CONSTRUCTION IN ACCORDANCE WITH PUBLISHED INFORMATION AND AS REQUIRED FOR COMPLETE INSTALLATIONS.
- B. GENERAL DUTY SWITCHES: PROVIDE GENERAL-DUTY TYPE, SHEET-STEEL ENCLOSED SWITCHES, FUSIBLE OR NON-FUSIBLE AS INDICATED OF TYPES, SIZES AN ELECTRICAL CHARACTERISTICS INDICATED; RATED 240 VOLTS, 60 HERTZ, INCORPORATING SPRING ASSISTED, QUICK-MAKE, QUICK-BREAK MECHANISMS. PROVIDE SINGLE PHASE OR THREE PHASE AND WITH SOLID NEUTRAL AS REQUIRED BY APPLICATION. EQUIP WITH OPERATING HANDLE WHICH IS CAPABLE OF BEING PADLOCKED IN "OFF" POSITION. PROVIDE NEMA 1 OR NEMA 3R AS REQUIRED BY APPLICATION, UNLESS NOTED. PROVIDE FUSIBLE SWITCHES WITH CLASS R REJECTION FUSE CLIP KITS.
- C. THERMAL OVERLOAD UNITS: PROVIDE THERMAL OVERLOAD UNITS, SIZED TO ACTUAL RUNNING FULL LOAD CURRENT, NOT TO MOTOR PLATE CURRENT, SIZE HEATERS FOR MECHANICAL EQUIPMENT AFTER AIR AND WATER BALANCING HAVE BEEN COMPLETED.
- D. AC FRACTIONAL HP MANUAL STARTERS (EQUAL TO SQUARE D CLASS 2510): PROVIDE MANUAL, SINGLE-PHASE, 1 AND 2 POLE, 300 VOLT AC MAX, FRACTIONAL HP MOTOR STARTERS, OF TYPES, RATINGS AND ELECTRICAL CHARACTERISTICS INDICATED; EQUIP WITH ONE PIECE THERMAL OVERLOAD RELAY WITH FIELD ADJUSTMENT CAPACITY OF PLUS OR MINUS 10 PERCENT OF NOMINAL OVERLOAD HEATER RATING; FOR PROTECTION OF AC MOTORS OF 1 HP AND LESS. (FOR MANUALLY SPECIFIED HEREIN). PROVIDE STARTER WITH QUICK-MAKE, QUICK-BREAK TRIP FREE TOGGLE MECHANISMS, GREEN PILOT LIGHTS, AND WITH LOCK-OFF TOGGLE OPERATED HANDLE. MOUNT SURFACE UNITS IN NEMA 1 ENCLOSURES, UNLESS NOTED OTHERWISE. PROVIDE NEMA 3R ENCLOSURE IN EXTERIOR OR DAMP LOCATION UNLESS NOTED OTHERWISE. PROVIDE FLUSH MOUNTED UNITS WITH COVERPLATE TO MATCH WIRING DEVICE COVERPLATES.
- E. AC LINE VOLTAGE MANUAL STARTERS (EQUAL TO SQUARE D CLASS 2510): PROVIDE LINE VOLTAGE MANUAL STARTERS, OF TYPES, RATINGS AND ELECTRICAL CHARACTERISTICS INDICATED; 2 OR 3 POLE, 600 VOLT AC MAX; EQUIP WITH PUSHBUTTON OPERATOR, LOW VOLTAGE PROTECTION FEATURE, AND GREEN PILOT LIGHT. PROVIDE STARTERS WITH TRIP FREE MECHANISM SUCH THAT CONTACTS WILL TRIP UNDER LOAD AND REMAIN OPEN UNTIL THERMAL ELEMENT HAS COOLED, AND UNIT IS RESET. MOUNT SURFACE UNITS IN NEMA 1 ENCLOSURE, UNLESS NOTED OTHERWISE. PROVIDE NEMA 3R ENCLOSURE IN EXTERIOR OR DAMP LOCATION, UNLESS NOTED OTHERWISE. PROVIDE OVERLAPPING TRIM FOR FLUSH MOUNTED UNITS.
- F. AC COMBINATION NON-REVERSING MAGNETIC STARTERS (EQUAL TO SQUARE D CLASS 8538) : PROVIDE LINE VOLTAGE COMBINATION STARTERS, OF TYPES, RATINGS, AND ELECTRICAL CHARACTERISTICS: 2 OR 3 POLE, 600 VOLT MAXIMUM WITH NON-REVERSING MAGNETIC STARTERS AS SPECIFIED HEREIN; IN COMMON CUBICLE OR ENCLOSURE WITH FUSIBLE DISCONNECT SWITCH. PROVIDE QUICK-MAKE, QUICK-BREAK, DISCONNECT FOR NEMA SIZES 1, 2, 3, AND 4; AND VISIBLE BLADE, AUTOMATIC CIRCUIT INTERRUPTERS WITH PUSH-TO-TRIP FEATURE AND SEPARATE FUSE CLIPS FOR LARGER NEMA SIZES. FUSE ALL STARTERS WITH DUAL-ELEMENT (TIME-DELAY) FUSES EQUAL TO BUSSMAN FRN/FRS-R. EQUIP DISCONNECT SWITCH WITH CLASS R REJECTION FUSE KITS. PROVIDE COMBINATION STARTERS FOR INDIVIDUAL MOUNTING, OR FOR GROUP MOUNTING IN MOTOR CONTROL CENTERS AS INDICATED. PROVIDE NEMA 1 ENCLOSURES UNLESS OTHERWISE INDICATED. PROVIDE NEMA 3R ENCLOSURE IN EXTERIOR OR DAMP LOCATIONS, UNLESS NOTED OTHERWISE.

MOTOR AND EQUIPMENT WIRING

- A. PROVIDE POWER AND CONNECT ALL MOTORS AND MOTOR DRIVEN EQUIPMENT SHOWN ON THE PLANS.
- B. FURNISH, INSTALL AND CONNECT ALL OVER CURRENT AND DISCONNECT MEANS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
- C. MOTORS AND MOTOR DRIVEN EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY OTHERS. MOTOR STARTERS, CONTROLLERS AND CONTROL DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR EXCEPT AS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR EXCEPT AS OTHERWISE NOTED.
- D. INSTALL AND WIRE ALL MOTOR EQUIPMENT PER WIRING DIAGRAMS AND INSTRUCTIONS FURNISHED TO HIM, INCLUDING INTERLOCK WIRING BETWEEN EQUIPMENT.

COMMUNICATIONS CONDUIT SYSTEM

- A. FURNISH AND INSTALL COMPLETE COMMUNICATIONS CONDUIT SYSTEM, INCLUDING RISER, COMMUNICATIONS CABINETS, JUNCTION BOXES AND COMMUNICATIONS OUTLETS AS REQUIRED.
- B. CONDUIT FOR COMMUNICATIONS WALL OUTLET SHALL BE MINIMUM OF 1" UNLESS SHOWN OTHERWISE.
- C. COMMUNICATIONS OUTLET BOXES SHALL BE MINIMUM OF 4" SQUARE AND PLATES SHALL MATCH RECEPTACLE PLATES. PROVIDE FLOOR OUTLET WHERE SHOWN ON THE PLANS.
- D. BENDS IN CONDUITS SHALL BE LONG SWEEP BENDS.
- E. NO WIRING SHALL BE INCLUDED IN THE COMMUNICATIONS CONDUIT SYSTEM, EXCEPT #14 NYLON PULL CORDS TO BE INSTALLED THROUGHOUT.
- F. CONDUIT SYSTEM SHALL BE CONTINUOUS FROM ALL OUTLETS TO COMMUNICATIONS CABINET REAM AND BUSH CONDUITS.

FIRE PENETRATION SEALS:

SEAL ALL PENETRATIONS FOR WORK OF THIS SECTION THROUGH FIRE RATED FLOOR, WALLS AND CEILING TO PREVENT THE SPREAD OF SMOKE, FIRE, TOXIC GAS OR WATER THROUGH THE PENETRATION EITHER BEFORE, DURING, OR AFTER A FIRE. THE FIRE RATING OF THE PENETRATION SEAL SHALL BE AT LEAST THAT OF THE FLOOR, WALL OR CEILING INTO WHICH IT IS INSTALLED, SO THAT THE ORIGINAL FIRE RATING OF THE FLOOR OR WALL IS MAINTAINED AS REQUIRED BY ARTICLE 300-21 OF THE NATIONAL ELECTRICAL CODE, WHERE APPLICABLE. PROVIDE OZ TYPE CF8F/1 AND CANSF/1 FIRE SEAL FITTINGS FOR CONDUIT AND CABLE PENETRATION SYSTEM, AND/OR IPC FLAME SAFE FIRE STOOP SYSTEM, AND/OR CHASE FOAM FIRE STOP SYSTEM, INCLUDING WALL WRAP, PARTITIONS, CAPS, AND OTHER ACCESSORIES AS REQUIRED. ALL MATERIALS TO COMPLY WITH UL 1479 (ASTM E-814). COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF SEALING FITTINGS AND BARRIER SEALING SYSTEMS.

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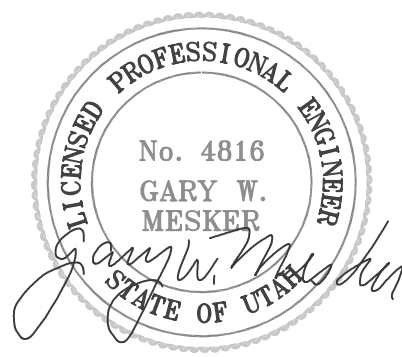
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PROFESSIONAL SEAL



ISSUE

	11-28-06	REVIEW COMMENTS

MARK	DATE	DESCRIPTION
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DFCM CONTRACT NO:	077005
DFCM PROJECT NO:	06128730
BNA PROJECT NO:	06264SG.01
DRAWN BY:	J. TRUJILLO
CHECKED BY:	L. REMBER
SCALE:	AS NOTED
DATE:	OCTOBER 27, 2006

KEY PLAN

SHEET TITLE

ELECTRICAL
SPECIFICATIONS

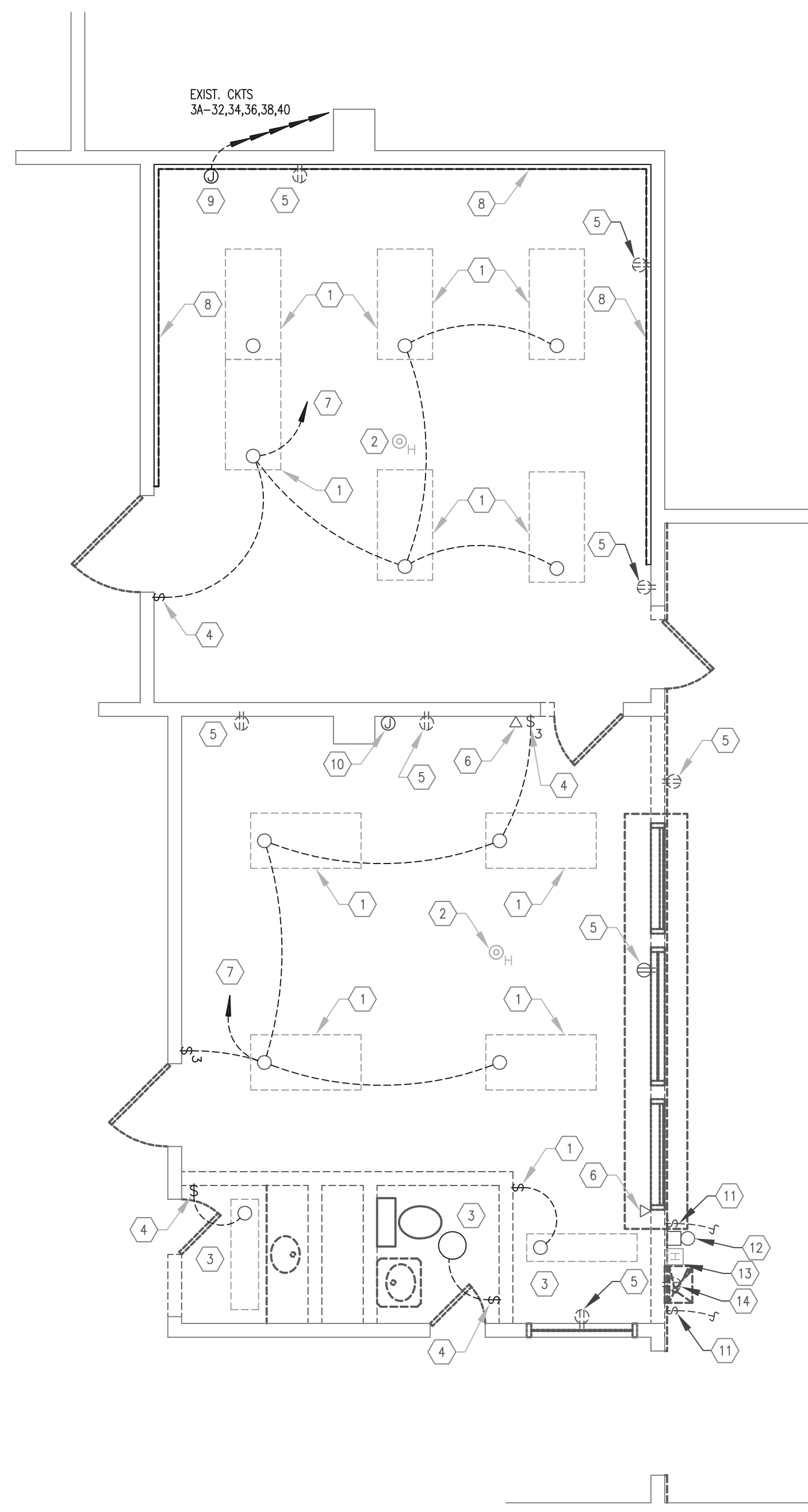
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PLAN
NORTH



DEMOLITION PLAN

$$1/4'' = 1' - 0''$$



SHEET KEYNOTES

- ① EXISTING RECESSED 2X4 LIGHT FIXTURE TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRE WHICH IS NOT TO BE REUSED BACK TO ACCESSIBLE JUNCTION BOX AND LABEL AS SPARE.
- ② EXISTING FIRE ALARM HEAT DETECTOR TO BE DISCONNECTED, REMOVED AND REINSTALLED IN NEW CEILING GRID. MAINTAIN EXISTING FIRE ALARM CIRCUIT.
- ③ EXISTING SURFACE MOUNTED LIGHT FIXTURE TO BE DISCONNECTED AND REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRE WHICH IS NOT TO BE REUSED. MAINTAIN CIRCUITING OF DOWNSTREAM LIGHT FIXTURES.
- ④ EXISTING TOGGLE SWITCH TO BE DISCONNECTED AND REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ⑤ EXISTING DUPLEX RECEPTACLE TO BE DISCONNECTED AND REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRE BACK TO NEAREST ACCESSIBLE JUNCTION BOX AND LABEL AS SPARE. MAINTAIN CIRCUITING OF DOWNSTREAM DEVICES WHICH ARE NOT TO BE REMOVED.
- ⑥ EXISTING TELEPHONE/DATA OUTLET TO BE DISCONNECTED AND REMOVED BY CAMPUS I.T. PERSONAL
- ⑦ EXISTING LIGHTING CIRCUIT TO BE REUSED.
- ⑧ EXISTING SURFACE MOUNTED NON-METALLIC, TWO COMPARTMENT RACEWAY TO BE DISCONNECTED AND REMOVED. REMOVE ALL ASSOCIATED CONDUIT, WIRE, MOUNTING HARDWARE, ETC. DATA/TELEPHONE CABLING TO BE REMOVED BY CAMPUS I.T. PERSONAL.
- ⑨ EXISTING POWER/DATA FEEDS FOR SURFACE RACEWAY TO BE REMOVED. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRE BACK TO NEAREST ACCESSIBLE JUNCTION BOX ABOVE CEILING. EXISTING CIRCUITS TO BE REUSED.
- ⑩ EXISTING JUNCTION BOX WITH ALL ASSOCIATED CONDUIT AND WIRE TO BE REMOVED.
- ⑪ EXISTING TOGGLE SWITCH TO BE REMOVED. PROVIDE NEW TOGGLE SWITCH AND EXTEND SWITCH LEGS AS REQUIRED TO NEW SWITCH LOCATION INDICATED ON SHEET E-201.
- ⑫ EXISTING BELL TO BE DISCONNECTED, REMOVED AND RELOCATED TO NEW LOCATION INDICATED ON SHEET E-301.
- ⑬ EXISTING FIRE ALARM HORN TO BE DISCONNECTED REMOVED AND RELOCATED TO NEW LOCATION INDICATED ON SHEET E-301.
- ⑭ EXISTING ELECTRIC WATER COOLER TO BE DISCONNECTED, REMOVED AND RELOCATED. EXTEND CONDUIT AND WIRING TO NEW ELECTRIC WATER COOLER LOCATION INDICATED ON SHEET E-301.

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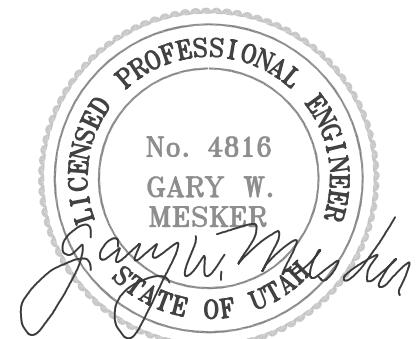
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MARK	DATE	DESCRIPTION
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DFCM CONTRACT NO: 077005

DFCM PROJECT NO: 06128730

BNA PROJECT NO: 06264SG.01

DRAWN BY: J. TRUJILLO

CHECKED BY: L. REMBER

SCALE: AS NOTED

DATE: OCTOBER 27, 2006

KEY PLAN

SHEET TITLE

DEMOLITION PLAN

E-101

A
B
C
D

By: skyler, Dec 01, 2006 - 10:29am
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1

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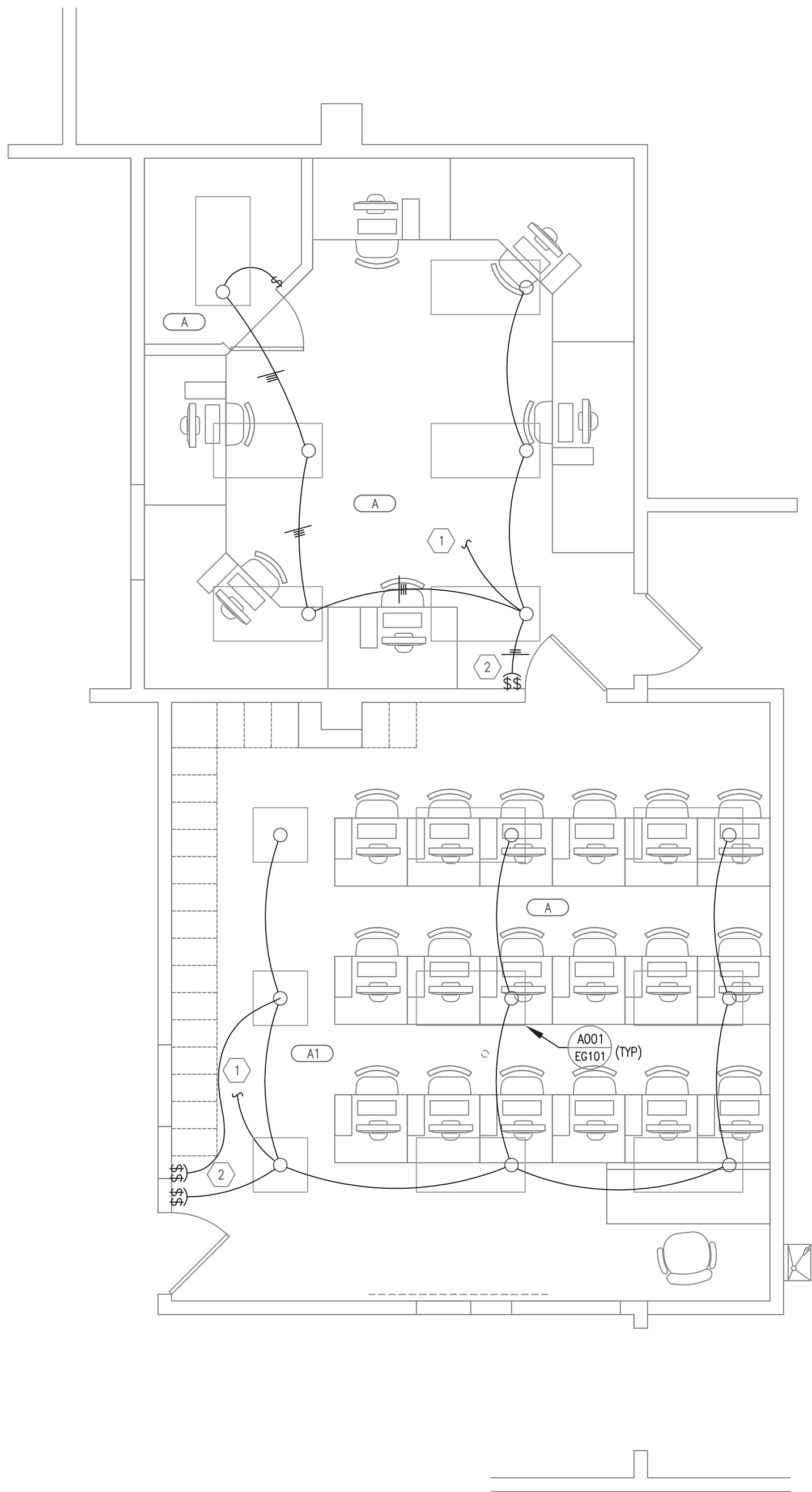
3

4

5

SHEET KEYNOTES

- ① EXTEND 2 #12 THHN CU. & 1 #12 GND. 3/4" CONDUIT AS REQUIRED AND CONNECT INTO EXISTING LIGHTING CIRCUIT CURRENTLY FEEDING THIS AREA.
- ② PROVIDE DUAL LEVEL SWITCHING OF FIXTURES INDICATED. SWITCH EACH LAMP IN FIXTURE SEPERATLY.



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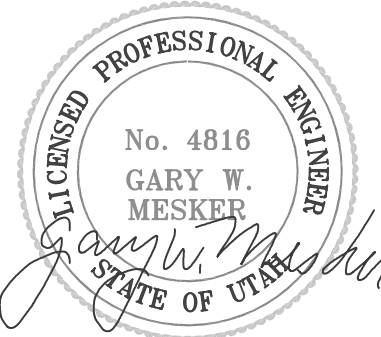
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ISSUE

MARK	DATE	DESCRIPTION
△	11-28-06	REVIEW COMMENTS

DFCM CONTRACT NO:	077005
DFCM PROJECT NO:	06128730
BNA PROJECT NO:	06264SG.01
DRAWN BY:	J. TRUJILLO
CHECKED BY:	L. REMBER
SCALE:	AS NOTED
DATE:	OCTOBER 27, 2006

KEY PLAN

SHEET TITLE

LIGHTING PLAN

E-201

1

2

3

4

5

D

C

B

A



SHEET KEYNOTES

- 13 PROVIDE AND INSTALL FIRE ALARM SIGNAL HORN / STROBE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. EXTEND FIRE ALARM INDICATING CIRCUIT AS REQUIRED TO NEW DEVICE LOCATION.

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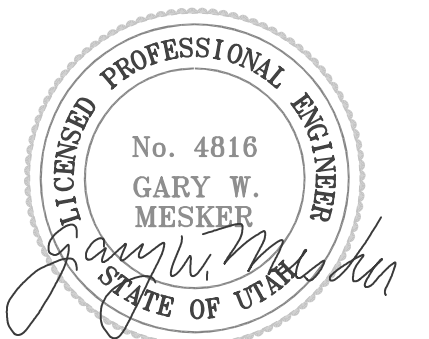
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KEY PLAN

SHEET TITLE

POWER PLAN

E-301

